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ABSTRACT

The essays in this collection examine the outcomes or benefits of community colleges with respect to specific constituencies; discuss the impact of the policies, programs, and needs of external agencies on the colleges; and consider methods by which educational outcomes can be improved and measured within the institutional setting. After introductory material, Dorothy Linthicum describes the social and economic gains experienced by community college students. Next, Timothy Fidler examines the impact of community college programs on business and industry through the preparation of a trained labor force. James Gollattscheck then assesses the social and economic benefits of 2-year college education to the community and presents three case studies exemplifying ways in which impact studies can be conducted. After Paul Wing's description of emerging relationships between community colleges and state agencies and strategies for improving college impacts on these agencies, Joseph Cosand and Mary Jane Calais discuss the same issue focusing on impacts at the federal level. Alfons Van Wijk then considers the relationship of sound management and faculty and staff job satisfaction with institutional outcomes. Next, Richard Alfred presents a model for assessment that can be used to improve college programs and enhance funding prospects. Finally, Jack Friedlander reviews ERIC documents concerned with measuring the economic and educational benefits of community colleges. (HB)

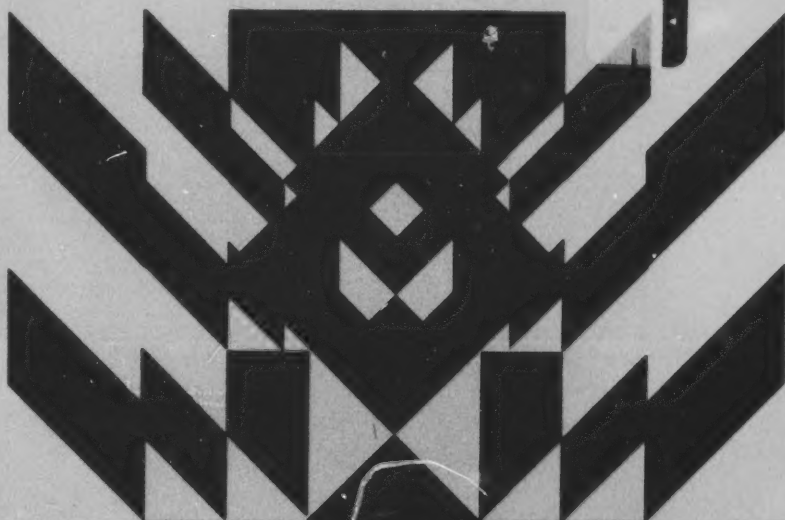
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Institutional Impacts on Campus, Community, and Business Constituencies

Richard L. Alfred, *Editor*



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Institutional Impacts on Campus, Community, and Business Constituencies

Richard L. Alfred, *Editor*

NEW DIRECTIONS FOR COMMUNITY COLLEGES

Sponsored by the ERIC Clearinghouse for Junior Colleges

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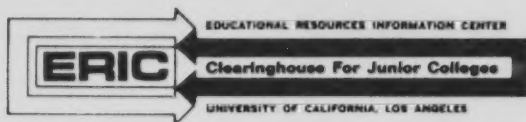
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Institutional Impacts on Campus, Community, and Business Constituencies
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Richard L. Alfred, *Editor*

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Arthur M. Cohen, *Editor-in-Chief*; Florence B. Brawer, *Associate Editor*

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Editor's Notes

Stabilizing enrollments and dwindling resources have signaled the close of the period of growth that characterized community college development in the 1960s and 1970s. Now cost effectiveness—using scarce resources to maximize the social and economic benefits to individuals, organizations, college districts, states, and the nation in return for investment in education—is the watchword. With resources growing tighter and enrollments predicted to decline significantly, faculty and administrators have responded by initiating planning, research, and program reviews in the hope that such processes will assist them in making decisions about the future. New concepts such as “downsizing” (reducing number of students) are receiving increased attention, and difficult questions related to such factors as size, quality, effectiveness, and impact are being asked with increasing frequency. Is quality synonymous with growth? Is reduction in force a sign of weakness? Is it possible to reduce enrollments, staff, and programs while upgrading quality and effectiveness at the same time?

Opportunity is implicit in a condition of adversity. Hard decisions can be made about programs and services in a period of declining resources when change occurs through a process of substitution rather than addition. New programs can be substituted for outdated programs, resources can be allocated and reallocated on the basis of careful decisions about the merits and demerits of specific programs and staff, and a streamlined mission can be substituted for the comprehensive mission to limit the objectives of the college in a faltering economy. Facing a condition of austerity, community colleges can develop new visions about the future to guide the allocation of resources. To accomplish this task, faculty and administrators will need to pay careful attention to the impacts of the college on its constituencies, particularly the role that such impacts play as a force for social and economic mobility. The community college in the 1980s can and should become a cost-effective institution concerned about the impact of its programs and services on the constituencies that it serves: students, business and industry, community organizations, unions, and agencies of state and federal government, to name a few.

Impact Defined

Little is known about impact and its meaning and utility in community college education. Although a sizable body of literature has been

produced with respect to student and institutional outcomes, little has been written that focuses exclusively on the social and economic benefits of community college education. What, for example, are the effects of two-year college degree and nondegree programs on an individual's earnings, employment, and social development? What are the cost benefits to business and industry of labor training programs offered in community colleges? Do states and localities experience direct economic benefits as a result of community college programs? What are the social and economic benefits to agencies of government—national, state, and local—associated with investment in community college education? Does community college education improve social organization through absorption of unemployed and indigent groups in the population? What is the relationship of community college programs to economic development in a recessionary economy?

These and other questions related to social and economic impacts of the community college are the focus of this volume of *New Directions for Community Colleges*. Most studies of impact conducted in community colleges—for example, economic impact, student follow-up, and socio-economic impact studies—focus on benefits produced by the college in relationship to specific constituencies. Impact, however, is a reciprocal process. Two-year institutions are a receptor of impact produced by other organizations such as agencies of government and industry, as well as a producer of impact with these same organizations. To the extent that the college is both a producer and receptor of impact, a bifocal definition of impact is employed in this volume. *Impact* is (1) the sum total of outcomes or benefits produced by the college in relationship to specific constituencies through its programs and services and (2) the aggregate of policies, programs, and needs generated by external agencies that shape the flow of resources to the college and thereby determine its mission and goals.

The value of impact data lies in its use by community college faculty and administrators to address both strategic and operational problems in the college. In the strategic context, impact data can be used as a basis for improvement in the positioning of the institution with funding sources through knowledge of the benefits produced by programs and services in relationship to important constituencies. They can also provide a foundation for change in institutional mission and goals through knowledge of the impacts forthcoming from programs and policies initiated by external agencies. In the operational context, impact data can be used a guide for decisions about the allocation or reallocation of resources to programs and services through knowledge of the benefits produced by these units with specific constituencies. Both dimensions are of

critical importance to faculty and administrators as they contemplate revisions of the institutional mission and goals, the program and service mix, and relationships with constituencies.

Overview of Chapters

In the chapters that follow, knowledgeable contributors examine the concept of impact, each from a unique perspective. The chapters are arranged in a serial order, beginning with the analysis of impacts produced by the college in relationship to specific constituencies such as students, business and industry, and the community and moving to the consideration of impacts generated and *experienced* by the college in relationship to external agencies such as states and the federal government. The volume concludes with chapters aimed at consideration of the commitment required from faculty and staff to enhance or improve impact and techniques that can be used to measure impact in the community college's organizational setting.

Research on the impact of college on students has been a subject of continuing interest among community college faculty and administrators. Most colleges conduct follow-up research on students, but analyses of the relationship between costs and benefits in community college education have been few. Dorothy Linthicum in Chapter One describes the social and economic gains experienced by students enrolled in community colleges. Benefits are viewed as a function of investment in education with variation in the rates of return experienced by students categorized according to age, sex, major field, employment history, and degree objective. Community college education is shown to be a valuable investment in terms of the linkage between the costs of education borne by students in the present and economic and social benefits experienced in the future.

In Chapter Two, Timothy Fidler examines the impact of community college programs on business and industry through the preparation of a trained labor force. Although industry and education have long been partners in the post-secondary education enterprise, he concludes that new linkages between industry and education are necessary if community colleges are to provide leadership for change through programs for labor and industrial development.

Assessment of the social and economic benefits of community college education to the community is the topic addressed by James Gollatschek in Chapter Three. Case studies are presented for three colleges to provide concrete examples of how impact studies can be conducted in the constantly changing environment of the community.

Benefits are described as direct or indirect, depending on the relationship between resources and outcomes generated by the college. Community colleges, with their unique commitment to serving the needs of the community, must be concerned about the cost benefits of their programs to individuals and groups. Planned, coordinated programs that assess the local social and economic impacts of community colleges constitute an important tool for putting information into the hands of decision makers.

The next two chapters consider impacts generated and experienced by community colleges in relationship to agencies of state and federal government. Impact, in these chapters, is examined from a two-fold perspective: (1) the benefits of two-year college programs and services offset against state and federal agencies and (2) the impact of state and federal policies, programs, and initiatives on community colleges—particularly on the ability of these institutions to perform their unique mission. In Chapter Four, Paul Wing presents a description of emerging relationships between community colleges and state agencies and delineates a number of strategies that can be used by community colleges to improve their impact with state agencies. Joseph Cosand and Mary Jane Calais consider the same problem in Chapter Five; but focus on impacts at the federal level. They suggest that community colleges have been negligent in putting forward vital information that can be used by agencies of the federal government to improve the allocation of resources to college programs and functions and thereby to improve institutional impact.

The ability of a community college to generate meaningful dialogues with various constituencies is largely dependent on the morale and commitment of its faculty and staff. A college operating with a dispirited faculty, tired administrators, and disinterested board of trustees clearly will not be able to achieve maximum impact in its relationships with students, business and industry, the community, and agencies of government. Alfons Van Wijk examines the relationship between job satisfaction and impact in Chapter Six. He concludes that changes in the approach to management are necessary if community colleges are to maximize impact through improved levels of job satisfaction among faculty and staff.

In Chapter Seven, I pull together the various threads that relate to impact and present a model for assessment that can be used by faculty and administrators to improve the program of the college as well as to improve the positioning of the institution with multiple funding sources. The volume concludes with a chapter by Jack Friedlander indicating

reference sources that can be consulted in relationship to the study of impact in community colleges.

Enabling faculty and administrators to weigh and sift the evidence for various development alternatives, impact measures are a critical ingredient in shaping the future of the institution. An institutional data vacuum invites external intervention and domination either through an imposed plan or ad hoc legislative decisions. A carefully defined plan for assessment of impact invites external support and cooperation rather than control. Community colleges should, at the very least, know more about the impacts of their programs in relationship to students, business and industry, the community, and government agencies than external agencies do. At the same time, they should be cognizant of the impacts of external agencies on the flow of resources to the institution. The assessment of impact provides one method for collection of this information and ensures the continuing progress of community colleges toward their stated mission and goals.

Richard L. Alfred is associate professor of higher education and director of the community college program at the University of Michigan.

Economic gains experienced by students in community colleges outweigh the social benefits of education, but the extent and direction of change is a function of student decisions in the realms of education and career.

Does Community College Education Produce in Students?

Dorothy S. Linthicum

In the college boom years of the 1960s and early 1970s few questioned the value of college attendance. A college degree was the passport to the future, the good life that had escaped many who grew up during the Depression and war years. There were almost unlimited job opportunities and a high degree of social mobility for those with post-secondary education credentials. Study after study showed that not only students but also society reaped great rewards from the continued expansion of higher education.

The 1980s are a new decade characterized by a new set of variables. A college degree is no longer an ironclad guarantee of a good job or social mobility. Students have exhibited their frustration by demanding "relevance" in courses and programs as well as demonstrable linkages between postsecondary education and the world of work. In a depressed job market, traditional approaches to cost-benefit analysis are no longer applicable because the relationship between costs and benefits are not always direct, especially for degree holders in the soft sciences.

One segment of higher education, however, has been able to adjust readily to the new economic realities. The same flexibility that allowed community colleges to open higher education to new segments of the population has been used to alter programs and adjust priorities to meet changing student demands. Factors of low cost and geographic accessibility have kept the economic benefits of college attendance on the plus side for most students. In addition, many students have benefited directly or indirectly from the social and cultural aspects of community college education. While acquiring skills in accounting, dental hygiene, automotive technology, and related technological programs, students have broadened their cultural awareness and discovered new ways to contribute time, energy, and knowledge to community affairs. The objective of this chapter is to examine the economic and social changes occurring in students as a result of, or in relationship to, college attendance. The economic gains associated with community college enrollment will be described as well as the social benefits to students through interaction with the college environment. The chapter will conclude with a statement of student and institutional roles in the educational process if the two-year college is to have a positive impact on students in the educational, social, cultural, and economic realms.

Economic Gains and Community College Attendance

The primary economic drawing cards of two-year colleges are improved employment opportunities and increased income. From these two benefits derive other economic gains that directly or indirectly affect students' lives.

Better Employment Opportunities. The legions of new students entering community colleges in the 1980s are more pragmatic than their counterparts of the 1960s. The students of the 1970s and 1980s exhibit a tendency to cite job-related reasons for college attendance in contrast to personal goals. A statewide follow-up study of fall 1972 first-time students in Maryland community colleges (Tschechtelin, 1976) showed that 34 percent of the student population entered college with job-related goals. A related follow-up study of 1974 first-time students in Maryland community college (Tschechtelin and MacLean, 1980) showed similar results. These surveys are important because they include not only two-year college graduates, often a small percentage of the total student population, but also nondegree students that may account for as much as 80 to 90 percent of the student population in two-year colleges.

A similar trend in entering student goals can be observed in

other states as well. A survey of 3,500 students enrolled in five Connecticut Regional Community Colleges in fall 1981 showed that the primary reasons for college attendance were to prepare for a new job (74 percent) or to upgrade skills to a present job (17 percent). Only 7 percent indicated their primary reason for attendance was to obtain a general education (Holt, 1981). It is significant that students are able to achieve both career and vocational goals through enrollment in community college programs. In a survey of 1977-78 two-year graduates in Hawaii, approximately 88 percent of the respondents were either employed, in school, or both (*Survey of Fall 1974 Entering Students*, 1979). Not surprisingly, business attracted the greatest proportion (86 percent) of the graduates who were working, while liberal arts had the highest proportion of graduates (73 percent) continuing their education. In addition, 23 percent of the graduates were working for the same company they were employed by while they attended college, and half felt their jobs were related to their major field of study.

In a related study, Tomsic (1979) found that 77 percent of a responding sample of 1978 graduates of Lorain County Community College in Ohio were employed, 28 percent were enrolled in a college or university, and 15 percent were both employed and continuing their education. Most of the employed graduates were working fulltime, and 60 percent held positions directly related to their major field of study. A study of the 1979 graduates of New Hampshire Technical Institute revealed that 78 percent were employed fulltime, while 11 percent were continuing their education fulltime. Only 5 percent of the graduates were still seeking employment (*1979 Graduates Placement Report*, 1980).

Although numerous studies and reports can be cited in support of the relationship between community college education and improved employment opportunities, variations in this relationship can and do occur. A major reason cited by older students (twenty-five years old and above) for college attendance is dissatisfaction with their present job or a desire to learn skills appropriate for a new career. Approximately 85 percent of the students replying to a follow-up survey of 1978 graduates of Illinois community colleges expressed satisfaction with current jobs after community college attendance (Kirby, 1980a). Increasing numbers of students are beginning to discover, however, that skills learned for one area of employment are easily transferable to another. While 60 percent of the Lorain County Community College graduates held positions directly related to their major field of study, for example, 40 percent found jobs in related or unrelated fields (Tomsic, 1979).

Students also question the need for additional education. Will

attendance at a two-year college open a new level of job opportunity? Will the benefits of completing an associate degree program outweigh the costs, fall short of the costs, or represent an even exchange? Will the associate degree represent a durable commodity on the career market or will constant retraining become necessary in response to technological change? Almost one half of the employers responding to an employer follow-up study at Howard Community College (Maryland) indicated that the jobs held by community college graduates required an associate degree (Nespoli and Nair, 1979). An additional 23 percent of the employers indicated an associate degree was preferred for employment while 90 percent rated the training of the graduates as adequate or more than adequate. All employers said they would hire another Howard Community College graduate. In a similar study at Moraine Valley Community College (Illinois), regional employers rated graduates good or excellent in skills, quality and quantity of work, and overall suitability and attitude (Baratta, 1977). About 85 percent of employers also said they would hire future graduates.

Differences continue to exist between male and female community college students in terms of their employment and earning potential in specific career fields. In a follow-up study comparing male and female graduates of Gateway Technical Institute, DeVuyst (1978) found that respondents tended to graduate from either male or female intensive fields. Women also averaged 25 percent less in wages than men and started at lower salaries. In addition, fewer women were involved in the job market than men usually because of family responsibilities. Community colleges seem to have only minimal impact in changing the traditional sex roles of some occupations, especially in the health fields, and in steering students into unisex career paths.

Higher Income. Community college education is one way that people can invest in themselves. By paying educational costs in the present, students can general social and economic returns in the future. Prebaccalaureate education is capable of teaching a person general facts, the use of specific tools, and general problem-solving techniques. Education can also influence human behavior by making people more flexible, better leaders, and mentally more disciplined. All of these factors lead to the development of more productive workers who are able to command better incomes.

There has been considerable study and much controversy about how education and earnings are causally linked. Although there may be doubt about whether community college education is a sufficient condition for getting a higher paying job, it does appear to be a necessary req-

quisite for many individuals. The main question to be answered in any investment decision is if the future returns will balance out present and future costs. Prospective purchasers of any asset have their eyes on future income or increased wealth from ownership of the asset. That is why, for example, the stock of a corporation that has no net income at present may still sell for a high price. The purchaser is willing to gamble on the future. It is also the reason why a growing number of students invest in community college education even though there may be a net loss in the present or immediate future.

For many students entering traditional fields of study in four-year colleges and universities, the initial cost of education is never offset by the discounted values of future earnings. Future earnings and costs are discounted because money that is available today can begin to pay dividends immediately, while money available in the future cannot. Educational costs include transportation, student fees and tuition, books and supplies, and foregone student income. Foregone income alone can be 50 to 90 percent of the costs, depending on the type of college attended. Benefits are the higher salaries commanded by those with additional education.

One reason four-year college students may not see a return on their investment is the depressed job market. A depressed market often causes bachelor's degree recipients to be underemployed or to opt for further education, which rarely results in positive rates of return (Baxter, 1979; Freeman, 1976). Recent studies show that students in two-year colleges can expect a good return on their investment in higher education. This can be attributed to the low cost of attending a two-year college and to the increasing number of programs (and students) in labor fields where job opportunities are still available. For example, roughly 80 percent of the respondents in the Maryland follow-up study of 1974 first-time students—a study that included graduates and nongraduates—who indicated a goal of career development were employed (Tschechtelin and MacLean, 1980). Students in the traditional transfer programs, however, evidenced, or can expect to experience, somewhat lower rates of return.

Using census data and student information from Maryland's seventeen community colleges, Linthicum (1978) found that the average student who attended a Maryland community college during the fall 1976 semester can expect to receive almost a 27 percent return on his or her investment in community college education during a lifetime. The calculated percentages varied widely according to the status of the students, whether they were male or female, enrolled full- or part-time,

and employed or unemployed while in college. The return rates ranged from a low of 3.6 percent for part-time female students who were employed while in college to more than 100 percent for full-time male students who were employed full-time while in college. Two major reasons account for the disparities in the rates of return: (1) the foregone earnings of unemployed students and (2) the tendency for women to drop out of the labor force for a portion of their career.

The Connecticut Regional Board of Community Colleges conducted a similar study in 1980-81 using actual income data from local firms and governmental offices instead of census data (Holt, 1980). Five community colleges participated in the study, providing student data and income information from their respective communities. Employers in eighteen different career fields were asked to provide average salary figures for job entrants with a high school diploma, one year of college, and an associate degree. Rates of return were computed from average college costs, including foregone earnings and benefits calculated from income data. Rates of return by career field ranged from zero for women majoring in child care to over 200 percent for men graduating in accounting. Most students realized a significant return on their investment, with child care the notable exception. (Adjustments were made in both Maryland and Connecticut community college studies for employment rates and ability differences among workers who attended college.)

Earlier studies showed somewhat lower but nevertheless positive rates of return. Kastner (1977) found that direct returns to students with community college education represented an annually compounded interest rate of 5.6 percent for males and 5.88 percent for females. Raymond and Sesnowitz (1975) found rates of return for community college students to range between 16.8 percent for white males to 2.2 percent for nonwhite males. These and other studies support the conclusion that if employment opportunities remain stable for students with community college education, return rates should remain steady or increase over the short range. This is partially due to the changing mix of the student population. As the number of high school graduates continues to decline throughout the 1980s, older students will constitute an ever larger proportion of the student body. The information contained in community college academic schedules shows that many colleges are offering as many courses at night and on weekends as during the day to make work and college compatible. Although it is true that the traditional student population—eighteen- to nineteen-year-old high school graduates—will have a longer time to earn higher salaries, they also will be more likely to

be unemployed or underemployed while in college. The increasing number of older students has a significant impact on return rates because foregone income will be neutralized or eliminated altogether through the tendency of these students to work fulltime while in college.

The issue of foregone income has an important impact on students coming from low-income families (Becker, 1975). Even with low tuition and easy geographic access, higher education has often been out of reach for the disadvantaged because many families experience financial difficulty without the earnings of college-age members. Financial aid packages to a large extent have remedied this problem, and the flexibility of course scheduling at two-year colleges has been a great equalizer. Returning women students have experienced similar changes in earning potential as a result of innovative policies of the two-year colleges. Often assigned the label of "returning housewives," women who have never been in the labor force or who have dropped out of the labor force before establishing careers have come to the two-year college in increasing numbers to explore their goals and ambitions. Although they may not plan to enter the job market initially, the confidence and skills they achieve propel them into the labor force. Because they do not forego any income to attend college, the costs are low and the return on their investment is high.

The rate of return a two-year college student can expect on his or her investment in education is tied closely to the labor market, which is currently in a state of flux. In the 1950s and 1960s, large increases in demand for the labor force due to change in the industrial mix of jobs, the growth of research and development, and the expansion of the education sector kept the demand high for persons with higher education. In the 1970s, these forces weakened or actually declined in comparison to the rest of the economy. At the same time, the number of students enrolled in community colleges and higher education as a whole kept increasing. Expansion in the number of career and occupational programs offered by two-year colleges has enabled students to compete effectively in the job market, but oversaturation could lead to deterioration in the market.

The advantage two-year college students have over their four-year college counterparts is the flexibility of training and the low cost of the initial investment. The drop-in and drop-out phenomenon reported by many two-year colleges becomes an advantage in a changing economy as many students enroll in a two-year college for short-term certificate programs or a particular set of courses, apply the skills gained in these courses to the job market, and then, as the market changes,

return to college to retool their skills. Because the initial investment is low, changing jobs is a viable option. Four-year students, on the other hand, who have invested much more time and money into preparation for a career, may find it much more difficult to change careers.

Data are available in community colleges to document this phenomenon. The Maryland follow-up study of 1974 first-time students, for example, showed that one half of the responding students were employed by the same company they worked for while attending college (Tschechtelin and MacLean, 1980). This figure is approximately double the percentage found in traditional graduate follow-up studies. The high proportion of students continuing employment in the same firm indicates that students are using two-year colleges to upgrade skills in response to changing work conditions.

Although the rate of return to individuals may fluctuate with the economy and the needs of the marketplace, those with college education still tend to do better in the labor force than those with less education. Numerous studies have shown that education, income, and employment are positively related and interdependent. Employment rates by level of education continue to increase, with the highest unemployment rates attributed to the least skilled and the lowest unemployment rates to the most skilled. Still, many students persist in the belief that they can obtain access to specific positions without further education. The more educated individual in the job market usually receives preferential treatment from employers (Alexander, 1976). Whether this is justified is irrelevant if the market continues to respond to this trend. Employers indicate a belief that the more educated worker has favorable effects on other workers and on the company in general. Certainly it is possible that too much education may be inefficient for the employer and for the underemployed employee, but employers still seek to improve future productivity by hiring more highly trained workers.

Economic Benefits. Better employment and higher earnings can have a domino effect in other areas of the economic life of students. Major changes include increases in the availability of discretionary income and improved purchasing power. Changes in family income produce changes in individual purchasing patterns. As income rises, a smaller portion of the total income is spent for basic necessities such as food and clothing. Increasing monies are available for discretionary expenditures such as leisure activities, improved housing, or savings. Studies have shown that as family income rises, the percentage of family income designated for savings rises at disproportionate levels (Projector and Weiss, 1972). Improved purchasing power can present new problems such as

increased local, state, and national taxes, but the gains to the individual and the community at large appear to outweigh the liabilities.

One area of spending that has a major impact on students is housing costs. Economists have shown that the percentage of total income spent for housing will remain constant or slightly exceed changes in earning power. In the past, the tendency of the American family to upgrade housing in relationship to increased income has led to increased property ownership. The present economy has almost undermined this well-researched theory. High interest rates and construction costs are keeping many families from entering the housing market. In addition, inflation has increased rental fees, utility costs, and related housing costs at a pace that often outstrips the increased earning power of two-year college students. If current trends continue, increased expenditures for housing costs will reduce discretionary income and thereby change the spending habits of students attending community colleges.

Despite changes in how money is spent by two-year college students, there is still little change in terms of where it is spent. Two-year college students tend to remain in the same community after finishing their college education. The Illinois Community College Board (1978) found that more than 60 percent of the graduates of Illinois community colleges obtained jobs in the district in which they pursued further education. A similar study of first-time students entering Maryland community colleges in 1974 showed that 92 percent had remained in the state or surrounding region after four years (Tschechtelin and MacLean, 1980). Because the amount of money spent on nonhousing items is inversely proportional to the distance of the point of purchase (the gravity theory), students attending a two-year college are likely to pump their increased earnings directly into the community of residence.

A secondary benefit experienced by students through enrollment in community colleges is improvement in employment opportunities related to the role of the college as a training center for business and industry. The Department of Economic and Community Development in Maryland, for example, works closely with community colleges in developing training programs to meet the needs of business. Although students may not profit directly from programs of this type, the improved employment picture in local communities may later be important. At the same time, new business lessens tax loads, especially those borne by property owners.

Although the study of economic benefits has been greatly refined, data obtained through rate-of-return analyses or by any other economic tools currently in use fall short of providing an accurate determination of

the benefits a student accrues from investment in education. This is especially true in an economy undergoing rapid change due to spiraling inflation, high interest rates, and a job market no longer able to absorb an overtrained work force. Education is a lifelong investment, however, and it is likely that the economic picture will stabilize over the long run. Viewed from this perspective, investment in two-year college education is a sound economic policy for the individual.

Social Value of College Attendance

The noneconomic benefits of community college education clearly have become less important to today's students, especially those training for specific careers. In the past, higher education was revered for its ability to impart skills of thinking and reasoning. A liberal arts background was designed to prepare students for life in a complex society. The explosion of career and occupational programs in the two-year colleges accompanied by the decrease in traditional transfer and liberal arts fields has led to a deemphasis of noneconomic values. The relative success of two-year colleges in meeting new student demands has resulted in increasing pressure on four-year institutions to stress the economic and job-related benefits of curricula.

The relative new emphasis on economic benefits does not necessarily mean that community college students do not experience expansion in social and cultural values. There are many opportunities for students to learn and appreciate new art or music forms or to expand ideas and viewpoints. The community college provides an environment for students to explore individual goals and set future priorities. Although many students, especially the evening student population, do not participate in college activities, counseling services have been designed in a number of colleges to provide students with the opportunity to explore new goals and to share feelings and beliefs. Graduates of Hawaii's community colleges in 1977-78, for example, gave favorable ratings to college as a vehicle for helping them identify and attain career and educational goals (*Survey of Fall 1975 Entering Students*, 1979). One third of the 1978 graduates of Oakton Community College (Illinois) indicated that the college was helpful in developing their communication skills, improving personal relationships, developing critical thinking, identifying and developing life goals, increasing self-understanding, and improving time usage (Kirby, 1980b).

Two-year colleges have served a key role in enrolling and providing marketable skills to students with severe academic developmental

needs. While these students often do not successfully complete a college curriculum, they do learn basic skills and the discipline needed to find and keep a job. Statistics bear out the fact that payments for welfare and unemployment compensation are greatly reduced as education levels increase (Hansen and Weisbrod, 1969).

As noted earlier, two-year college graduates are sought by employers because of their skills and overall suitability and attitude, as well as their ability to do the quality and quantity of work required (Baratta, 1977). Social skills can propel an employee to a better position with more responsibility. Drop-in students, who constitute a large proportion of the student body, may experience difficulty in acquiring these skills. Community colleges are dealing with this problem by offering expanded counseling programs, as well as a range of social and cultural activities. This exposure may encourage some students to broaden their educational goals to include more liberal arts and general education courses. Students who are willing to expand their educational horizons will not only be better workers, but will also be better citizens.

Hansen and Weisbrod (1969) argue that society receives several significant noneconomic benefits from its investment in higher education. For example, higher education appears to make important contributions to the quality of citizen and community life. It may also provide access to a range of options and opportunities that otherwise might be restricted to specific population groups. The aggregate result of increased education may be to narrow the gulf in understanding between population subgroups classified according to age, race, ethnicity, socioeconomic level, and literacy.

Some of the noneconomic benefits of community college education are difficult to separate from the monetary benefits. The increased likelihood of monetary difficulties associated with home ownership may make students more concerned about and active in local politics. The need to be a good citizen and taxpayer may encourage more informed involvement in the community. Many of the skills acquired as part of job training also can be used by students to make their voices heard on selected issues at every level of government.

Because many two-year college students maintain stable residence arrangements during and after college, they may have a vested interest in keeping the community economically viable. Research shows that students tend to work and spend their earnings in the community of residence and therefore will devote time and energy to the development of community organizations. Participation in community activities becomes significant as those with higher education are most likely to

take the lead in community and political activities; they have the most to gain and possess the skills to be leaders.

Change and Individual Performance

The extent to which community colleges produce change in students is a function of the benefits experienced by students through college programs. Two-year colleges offer a variety of career and transfer programs that can change students' earning power, their outlook on life, and the way they interact in the world around them. A choice on the part of students to enter liberal arts majors instead of the more lucrative business, health, or technical fields may decrease their future earning potential, but enhance their overall quality of life. At the same time, students who enroll in a two-year college to gain specific job skills may come away with a better understanding of themselves because they engaged in a personal growth course or attended an extracurricular activity.

Although numerous studies underway point to the development of an instructional gap in the humanities in the next fifteen to twenty years—when the need for faculty will be great but few trained people will be available—the direct economic benefits of career programs are a compelling force for students. Depending on the major field of study and the initial costs of investment, the return rate for a particular student can range from zero to over 100 percent. The extent of change, however, even in the area of economic benefits, is a function of student choice.

Two-year colleges have a responsibility to their students and to society at large to continue to meet demands for specific career training. At the same time, social and cultural skills should be emphasized if students are to become better citizens and to command better salaries as a result of their higher education experience. Community colleges also have the responsibility of informing students about the ways in which their educational and career choices will pattern the impact of college on their lives. The two-year college is many things to many people, but its ability to produce social and economic change in students is now, and will remain a matter of student choice.

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In an era of dramatic, fast-paced technological change, community colleges can be a valuable partner of business and industry in the preparation of a trained labor force. This partnership will mean keeping pace with change as well as advancing change through leadership for labor and industrial development.

Advancing Community College Impact Through Business and Industry

Timothy A. Fidler

Community colleges exist in an era of rapid, far-reaching change—change that involves pressures and counter pressures that create “a powerful tide surging across much of the world today, leading to a new, often bizarre, environment in which to work, play, marry, raise children, and retire” (Toffler, 1980, p. 1). Toffler’s description of the “third wave” of human development is an optimistic view of social evolution that emphasizes both the difficulties that face institutions and individuals and the potential costs of failing to ride the wave of change.

Consider the role of the community college during the decade of the 1980s and beyond. Will the community college have a meaningful role in society or will it be swept away with the tide of change? Myran (1974) suggests that the community college has five major functions:

1. the transfer function—providing the first and second year of a four-year program of study
2. the vocational/technical function—providing programs

through which the student can develop and upgrade vocational skills

3. the student services function—providing educational, occupational and other counseling, and student life services
4. the general education function—providing the student with educational opportunities to develop academic, vocational, and avocational skills in relation to the outside world
5. the community services function—providing programs and activities to meet the needs of the community in ways not best served by traditional degree programs.

Although this description of functions provides an excellent foundation for examination of the community college mission, it is likely that the realities of social change will mandate a redefinition of some or all of these functions. The 1980s will be a time for clarification of purposes and goals, a period in which trustees, faculty, and administrators will need to reflect on the role of the community college in previous decades, trace the development of mission and role in society today, and plan for a new and different role in the future. When asked to assess the likely direction of the community college movement in the 1980s and beyond, Dale Parnell, newly appointed president and chief executive officer of the American Association of Community and Junior Colleges, indicated the following: "We will see a great emphasis upon excellence and we will see a greater emphasis upon technical education. . . . Community colleges will continue to fill a major role as an educational resource for employment development. . . . Institutions will probably be doing more training for business and industry, reversing the pattern of in-plant training started many years ago. . . . They will become part of the "new productivity" that we hear so much about" (Harper, 1981, p. 4).

While community colleges stand to play a crucial role as businesses and industries focus on expansion of investment in human and material capital, the field of labor development is changing at a rapid pace. Lusterman summarizes this trend in a 1975 survey of the nation's largest private employers relative to the growth and development of employee education programs by noting: "During the single recession year of 1975, the nation's 7,500 largest private employers spent over \$2 billion on employee education, as much as the annual total in recent years of all contributions and grants to American colleges and universities from all sources. . . . A substantial portion of this amount [about \$1.6 billion] was spent by these companies on 'internal' programs and on 'existing' employees to prepare them to assume new responsibilities, to improve their performance in present jobs, and to maintain their com-

petency in the face of changing knowledge, products, and technology" (Lusterman, 1978, p. 475). Based on this trend, it is increasingly clear that community college faculty and administrators will need to devote more attention to the goals and objectives of two-year college programs to maximize impact in labor development. Provision of a trained labor force to business and industry will serve as a challenge to the resourcefulness of community colleges as they experience "third wave" pressures of social and technological change—especially if they hope to remain at the cutting edge of higher education.

The objective of this chapter is to examine the impact of community colleges on business and industry in terms of their ability to provide a trained labor force in an era of rapid social and technological change. Three issues are identified for consideration. First, in light of Toffler's notion of a "third wave" of human development, what is the status of education and industry relations today? Specifically, what actions have community colleges taken to promote work force development as central to industry and education relationships? Second, based on a discussion of past and present trends, what programs or actions will community colleges need to initiate to provide a trained labor force to industry in the future? Third and finally, what conclusions can be drawn from examination of current industry and education relationships to project impacts that community colleges can reasonably expect to generate with business and industry in the future? What are the likely benefits of such impacts in terms of generating resources, faculty development, student growth and development, and institutional management in the decade ahead?

Education and Industry Relations Today

Community colleges are in a unique position of having to establish new programs and services to satisfy emerging needs but having the resources to achieve this goal through cooperative ventures with business and industry. Glenny (1973) observed that higher education will no longer be a growth industry unless an entirely new constituency can be attracted to its institutions, and unless continuing education becomes an accepted pattern in society. Provision of a trained labor force to business and industry clearly represents an avenue for growth for community colleges in enrollments, programs, services, and staff. The problem will be to match institutional resources with the needs of business and industry.

There is a growing anomaly in community college education that

there is plenty of work, but not enough jobs to satisfy the career needs of a growing number of adult learners. Degree programs for adults offered by community colleges jointly with noneducational organizations such as business, industry, unions, hospitals, local government agencies, and community organizations are now commonplace. Also common are a variety of management practices to prevent career programs from drifting away from industry requirements: research on student outcomes and graduate placement trends, placement of industry representatives on program advisory committees, consultation by the faculty with business and industry, part-time day and evening instruction provided by practicing professionals, provision of facilities by the college to business and industrial groups, and economic development programs, courses, and workshops conducted by the college for practicing professionals. The outcomes of these programs and practices and their impacts on co-operating organizations and individuals are largely unknown. Community colleges must develop a new, deeper level of compatibility between work and learning, keeping both systems flexible if they are to expand their impact on learners and business and industrial organizations. Yet faculty and administrators tend to think of career programs as an isolated entity in the transition from learning to work rather than as a continuum.

Kruger (1978) observes that there should be a bridge of understanding and close cooperation between educational institutions and private-sector employers but that this bridge has not developed because of the focus of educators on the educational process rather than on outcomes. Employers, for the most part, need employees who can read, write, do arithmetic, have good communications skills, analyze and solve problems, and who possess demonstrated occupational skills.

Part of the problem in bridging the gap between college resources and employer needs is a fundamental problem of product and production. Educators experience difficulty in understanding the personnel needs of business and industry, and business and industrial leaders often fail to recognize that a direct relationship does not readily exist between supply and demand in specific job categories. Before the gap between business needs and institutional resources can be bridged, educators will need to learn more about business operations and the impact of a trained labor force on economic development in the college service region. What impact, for example, do trained workers have on the economy of the service region? How does the mobility of population groups impact on socioeconomic indicators such as income, job placement, home ownership, and disposable earnings? Do community col-

lege labor development programs contribute to or follow economic development initiatives at the state and local level? Do community colleges working to bridge the gap between labor needs and institutional resources through cooperative industry and education programs receive direct benefits from these programs such as growth in enrollment, new staff, and additional operating revenues?

Answers to these questions are not readily available in documents and reports published by community colleges, but a review of exemplary programs in several institutions is useful for analysis of the benefits of industry and education programs. Hagerstown Junior College (Maryland) implemented a staff development program in 1978 to place faculty in business and industrial work and learn situations. Based on the premise that a cultural lag exists between expectations of students and the faculty who teach them, the objective of the program was to assist career program faculty in developing new or renewed relationships with business and industry. Using data obtained through a survey of local industry, the college obtained a grant to place, over a five-year period, all career faculty in a business or industrial setting to validate theory, study current practice, or apply problem-solving techniques. By the second year of the program, ten of the college's fourteen occupational programs were being directed by faculty who had participated in the program. The result was improved understanding of the regional job economy by faculty and greater understanding demonstrated by students of the relationship between work force needs and regional labor conditions.

Another program designed to improve industry and education relationships is the curriculum assessment program of Gateway Technical Institute (Wisconsin). In the program 215 college faculty and staff were surveyed to obtain information about their professional background, their participation in professional development programs, their views about educational programs the institute should eliminate, and strategies that should be adopted to deal with the problem of declining enrollments. These data were matched with the results of a survey of 199 businesses and industries in which regional employers were asked to provide demographic data about their firm, the types of in-service employee training programs they offered, and methods that Gateway Technical Institute could use to improve their labor training programs. Data from both sources were then used to modify institutional programs to ensure greater relevance to the regional labor market and to enhance student and institutional outcomes.

These are but two examples of institutional attempts to improve

industry and education relationships. Many community colleges have launched assessment programs of employer needs such as those at Parkersburg Community College (West Virginia), Broward Community College (Florida), and Atlantic Community College (New Jersey) in which regional employers are asked to provide information about employee training needs, in-house educational programs, business recruitment practices, job trends, employee turnover rates, salary prospects by job category, and employment projections one to two years into the future by job category. Employers are also asked to describe the career interests and mobility patterns of employees, tuition incentive policies, knowledge about and use of college services, satisfaction with employed graduates of college programs, and willingness to assist the college in program planning (Fidler and others, 1978). Needs assessment programs of this type have been designed to assist colleges seeking to match college resources to identified training needs of regional employers.

A myriad of problems are experienced by community colleges attempting to assess business and industrial needs for employee training. Chief among them are the frustrations experienced by staff in relationship to the inability of business organizations to define training needs, the reluctance of faculty to cope with the immediacy and changing nature of expressed training needs, difficulty with corporate jargon, and matching appropriate faculty and administrative personnel to the training task. Jackson (1981) provides six principles for establishing good working relationships with business and industry. College staff should be flexible in their attitudes and thinking, listen and learn, insist on a corporate contact person, avoid "edu-speak," adapt teaching methods to the corporate structure, and summarize work plans and outcomes in a final report to both the corporation and the college. Four possible advantages should accrue to the college in its efforts to train employees for industry:

- professional growth on the part of administrators and instructors
- initial training programs that serve to stimulate requests for further training
- increased respect displayed by business and industry personnel toward community college faculty and staff
- efficiency and productivity in business that translate into more tax support and tuition for community colleges.

Program Needs, Impacts, and Costs

One outgrowth of increasing concern over the role of community colleges in employee training for business and industry is a new focus on

the cost benefits of college programs in relationship to institutional constituencies. There is ample evidence to suggest that employment training directed at improving the quality of life at work and the overall productivity of business and industry is more than a fad. World social and economic forces are causing industries to permanently realign their production expectations through the use of robot-controlled production techniques and statistical quality control techniques. Quality and productivity are only one dimension of the issue, however, in that attitudes toward work among individuals who are at odds with organizational needs for collective behavior take on added importance in a society undergoing rapid technological change. If, as numerous authors contend, the community college must undergo continuous change to remain vital in higher education, techniques and methods will need to be developed for assessment of the needs of business and industry for labor force development and training programs, as well as for the impacts of such programs on employees, regional business, and the community at large.

Impacts, as related to labor development and training, can be defined in terms of the relationship between three factors: business and industrial needs for labor force development and training programs, outcomes generated by institutional programs in response to identified needs, and the costs of training programs offered by postsecondary institutions. Table 1 presents a description of indicators that can be used to evaluate the impacts of community college development and training programs for the work force. Based on this table, programs that (1) meet expressed needs through production of terms benefits for business employees and college staff, (2) operate at moderate or low cost, and (3) generate unanticipated long-term benefits to the college through additional revenue, equipment, staff, or surplus enrollment can be said to be effective in terms of a positive relationship between needs, impacts, and costs.

The relationship between business needs, program outcomes, and costs is not always direct in regard to impact assessment. McClenney (1980, p. 2) questions the quality of techniques used by community college faculty and staff to obtain accurate information relative to business and industrial needs: "If the community college intends to structure its programming and manage its resources productively to satisfy the needs of its constituencies, it must necessarily concern itself with obtaining the proper 'input'." Phillips and Tucker (1975) conclude that the process of assessing the educational needs of business and industry in the area the college serves can, if properly conducted, reduce the imbalance between what is currently offered by the college and what ought

Table 1. Impact Measures for Community College Manpower Development and Training Programs

<i>Business and Industrial Needs</i>	<i>Community College Program Outcomes/Impacts</i>	<i>Program Costs</i>
Cooperative work/education programs for prospective employees (job entry)	Job placement rates and entry salary levels of career program graduates	Cost of faculty and support personnel to operate programs
Degree and nondegree credit programs for current employees (job improvement/upgrading/retraining)	Improved job skills of employees measured by indicators of improved productivity, more efficient work habits, constancy in worker output, involvement in management decisions, and so on	Cost of facilities (rental and/or utility costs)
Short courses for employee development of new job skills	Improvement in management skills of employees measured by indicators of promotion from entry level to mid-management positions, expansion in job responsibilities, and so on	Cost of equipment and supplies
Seminars and workshops for management development		
Program offerings to improve business and industry responsiveness to technological change	Improvement in salary levels of employees due to enrollment in college programs	<i>Impact</i>
Conferences and workshops to improve employee job performance and productivity	Enhancement of business and industrial capacity to compete successfully for federal, state, and local contracts due to staff expertise provided by college	Impact is determined through examining business and industrial needs in relationship to program outcomes and program cost
Facilities sharing with community colleges to achieve common goals at reduced cost	Reduction in staff development and training costs borne by business and industry due to labor development and training programs provided by the college	
Cooperative arrangements with community colleges to purchase equipment and supplies	Increased awareness of business and industry to trends in economic development and technological change as a result of college-sponsored seminars and workshops	
Consulting arrangements with community college faculty and staff on short- and long-term projects for organizational management	Reduction in capital outlay and personnel costs for business and industry due to cooperative purchasing and staff development programs with community colleges	

to be offered in terms of employment and training needs, needed special skills, emerging educational and economic trends, and understanding of the economic balance that is likely to result from these trends.

Examples of properly conducted business and industrial needs assessments are those conducted by Johnson County Community College (Kansas) and Muskegon Community College (Michigan). Johnson County's needs assessment program was directed at acquainting Johnson County employers with the programs available at the college. Employers were requested to identify programs in which they would like to have their employees enrolled. The areas of programming mentioned most often by the employers were management skills, salesmanship, business skills, job-related skills, human relations, communications, secretarial skills, business writing, technical skills, and data processing (Johnson County Community College, 1978). Muskegon Community College surveyed 489 salaried and 1,041 hourly employees at the Sealed Power Corporation of Muskegon to determine how familiar the employees were with the college and its programs, program topics they preferred, and logistical preferences regarding the time and location of programs. Respondents indicated a strong desire for courses designed to upgrade job skills and help them understand new technologies (Wilson, 1978).

Comparative data are a useful tool for assessment of the cost benefits of community college labor development and training programs. Knowledge obtained from private industry related to the internal costs of operating staff development programs can be used to compare the advantage of operating such programs in the educational sector with the business sector. *Training* magazine ("How Do You Compare . . .," 1980) reported the results of a survey conducted by Prentice-Hall in which more than 1,000 employers examined the cost benefits of their training programs. Survey results indicated the following:

1. All respondents indicated they had some form of employee training program. More often than not, it was described as an informal, unstructured program.
2. The median training cost per employee was about 1 percent of the company payroll (approximately \$75 to \$100).
3. Approximately 85 percent of the respondents had training programs available for line supervisors. The most prevalent topic was communication.
4. The most popular training method reported was that of group discussion, with classroom lectures second in popularity.

Community colleges can make a major contribution to employ-

ment development and will need to focus on new approaches to work described by Toffler (1980). Training programs designed to develop employee job skills, to improve communication between superiors and subordinates; and to encourage participative management practices will be in great demand as business and industrial organizations adjust to "third wave" changes in their approach to production. Untold programming challenges in the technologies remain to be addressed as employers prepare for a new era of work. In the section that follows, recommendations are made about specific programs that community colleges can implement to maximize their impact on business and industry in the changing decade of the 1980s.

Advancing Impact Through New Programs

Rapid social and technological change during this decade will require employers to keep pace by providing the necessary tools to meet new production standards. The community college will serve as a major resource for educational programming and will provide employees with the skills needed to work with the new tools of business and industry. Providing a trained labor force through employment development programming will mean increased emphasis on one of the primary attributes of the community college—flexibility. Employers will look to community colleges to provide timely, special purpose programs that respond to rapidly changing systems of operation. They will also expect that career program graduates will have up-to-date technical skills and will be well versed in interpersonal relations and basic skills in the areas of reading, writing, and mathematics. Table 2 provides some recommendations for enhancement of the role of community colleges in labor development and training in the decade ahead. Each recommendation is accompanied by a statement of the potential impact for business and industry and the likely outcomes of such impacts for community colleges.

In an era of dramatic, fast-paced technological change, community colleges can be a valuable partner of business and industry in the preparation of a trained labor force. This partnership will mean keeping pace with change, as well as advancing change through leadership for labor and industrial development. The community college must accept responsibility for meeting changes in technology and the economy. To do less would be to sacrifice the role of the community college as the institution most likely to accept and meet the challenge of the "third wave" in human development.

**Table 2. Recommendations for Improving Impact of Community Colleges
in Relation to Business and Industry**

<i>Recommendation</i>	<i>Business and Industrial Impact</i>	<i>Community College Impact/Outcomes</i>
1. Develop research models to reduce deleterious imbalances between regional labor requirements and college programs and courses through collection of data related to: area job needs and related training requirements, gaps and shortages in the regional labor market, capacity of college programs to meet skill requisites of business and industry, educational and economic trends in the community, and the condition of the regional economy given the continuation of present trends.	Improved responsiveness of college to business and industry training needs, due to accurate information about short- and long-term developments in regional economy	Enhanced credibility of institution as an agency for labor development and training with resulting impact on program and course offerings, enrollment, staff and educational resources
2. Undertake marketing programs to acquaint regional business and industry with college programs and courses directed toward business and industrial development, employee training, management development, communications, and related, high-interest topics	Increased knowledge of college programs and better information on which to base decisions about the approach and format for employee development and training programs in relationship to current and anticipated needs	Improvement in the market position of the institution as an agency for employee training for regional business and industry
3. Implement an annual or biannual assessment of the training needs of employers designed to provide the following information for program planning: specific training needs of regional business and industry, identification of educational agencies that can fulfill training needs, qualifications for employment in specific jobs, average wage by job title, anticipated job openings at specified intervals of time into the future, specific programs and course offerings required by industry, and evaluation of occupations difficult to fill because of a disproportionate balance between labor supply and demand	Advantages offset to industry through college provision of employee development and training programs that meet industry specifications while reducing the costs of personnel development to business and industry	Improvement in college program planning with direct benefits in area of institutional resources due to rising enrollment, improvement in industry/education relationships, and improved positioning with funding agencies due to business and industry support for institutional budget requests

**Table 2. Recommendations for Improving Impact of Community Colleges
in Relation to Business and Industry (continued)**

<i>Recommendation</i>	<i>Business and Industrial Impact</i>	<i>Community College Impact/Outcomes</i>
4. Provide workshops, conferences, and seminars to regional business and industry on emerging high interest topics such as changing technology, economic development, trends in management	Up-to-date information on emerging economic trends which can be used in short- and long-range planning for industrial growth and development	Recognition of the institution as a resource center for business and industrial development
5. Involve business and industry in cooperative programs for short- and long-term industrial development with the college serving as a resource center for key decisions about industrial goals and development vis á vis employee training, labor availability, product exploration	Access to information from college staff which can be used to improve strategic and operational planning	Enhancement of industry and education relationships through recognition accorded to college staff in terms of leadership for industrial planning and development
6. Seek comparative data from industry and other educational organizations on the costs and objectives of employee development and training programs; use such data as a frame of reference for the evaluation and improvement of labor training programs provided through the college	Possible reduction of employee development and training costs through substitution of lower cost community college programs for industry-sponsored programs	Improvement in the cost benefits of employee development and training programs with resulting benefits related to the attractiveness of such programs to regional business and industry
7. Attempt to blend the teaching techniques of career and technical faculty with the production-oriented strategies of industry as a means for improvement of the linkage between education and work; develop faculty exchange programs with industry to ensure greater relevance of career programs theories and constructs, current practices, problem-solving techniques, and new technologies and equipment in business and industry	Improvement in the job skills and training of employees hired directly from community colleges decreased need for training or retraining of new employees with resulting cost savings to business and industry	Improvement in student outcomes evidenced through data related to improved placement rates, highest entry salaries, and rapid movement between positions by community college graduates

8. Encourage direct involvement of faculty with regional business and industry through in-service consultation, service on program advisory committees, research and planning studies for industrial growth and development
9. Develop contract courses with business and industry to provide employee development and training as well as to address pressing community problems such as unemployment, underemployment, economic development, transition in the regional economy
10. Identify and implement cooperative arrangements with regional business and industry for sharing of facilities and learning resources (audio visual materials, periodicals, references, resource speakers) toward the goal of employee development and training
11. Implement a management development and training program for regional business and industry to provide skills training for workers interested in mobility into midmanagement or executive management positions
12. Document the cost benefits and impacts of college programs and courses with business and industry through research on worker outcomes (salary, promotions), improved performance and job skills, reduced cost of training to industry, increased competitiveness of business and industry for federal, state, and local contracts, and related benefits

Direct benefits to business and industry vis á vis long- and short-term development through counsel and guidance provided by expert consultants; savings accumulated through reduction in costs associated with utilization of geographically nearby resource persons

Industry and education alliance to solve pressing community problems; direct benefits to the community in terms of economic development, reduction in unemployment; indirect benefits to industry in terms of improvement in the capacity of the community to provide political support and trained labor for business operations

Cost savings to business and industry through lower costs for energy, materials, supplies, and personnel associated with staff development activities

Direct improvement in job skills and morale of employees through provision of internal channels for mobility; cost savings to organization through use of community college for staff development programs

Improvement in cost benefits of employee development and training programs to business and industry

Recognition of the college as a provider of resources for business and industrial development; resulting benefits in areas of programs and courses, enrollment, staff, and educational resources

Recognition of the college as a resource for community development

Cost savings to college due to reduced outlay for facilities, energy, personnel, and equipment and supplies through cooperative arrangements with business and industry

Recognition and use of the institution as a resource for management development; long-term impact on enrollment and market attractiveness of the institution to business and industry

Improvement in cost benefits of employee development and training programs for community colleges

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Competition for shrinking dollars has made it imperative for all public institutions to be able to prove their value to taxpayers; analysis of the socioeconomic impact of a college on its community is one strategy for demonstration of such value.

Assessing Social and Economic Benefits to the Community

James F. Gollattscheck

In the context of sharply diminished support for higher education in the 1980s, community colleges will not be able to meet the legitimate needs of faculty and staff, students, and the community at large for constantly increasing resources to programs and services. Although the basic objectives of most colleges remain unchanged, continued progress toward their full achievement will require difficult adjustments in programs and activities. A number of institutions are beginning to respond to the changing economic context through critical self-examination and gradual movement from programs that may have served well in the past to programs that bode well for the future. Institutional goals and objectives are being redefined, staff retrained and relocated in response to changing needs, resources examined as part of decisions on reallocation and redeployment, and staff reviewed to determine long- and short-term benefits for the institution.

Although self-assessment is a necessary and important activity under a variety of circumstances, it may not be sufficient to guarantee continued vitality for community colleges in the face of changing

economic conditions. From a purely administrative point of view, responsiveness to changing economic conditions through balancing institutional revenues and expenditures is not difficult — no matter how large or small the volume. But in the context of a situation in which purchasing power is falling, it is difficult to maintain institutional vitality with current resources. New resources are needed if community colleges are to pursue their mission and goals with a sense of direction and purpose. Assessment of the socioeconomic impact of a college on the community is a requisite task for community colleges interested in developing new resources to support new and existing programs.

The concept of socioeconomic impact — its focus, modalities, and uses — is the focus of this chapter. The objective is to identify the forms of impact that a community college can generate in relationship to its community, the research variables and procedures that can be used to examine impact, and the outcomes — negative or positive — that are likely to be forthcoming through impact assessment.

What Is Socioeconomic Impact?

Socioeconomic impact as a concept joins together measures of direct economic impact, indirect economic impact, and social impact to examine the impact of a college on its community. A college pursuing a singular mission of education of students may need only to evaluate its success by assessing the impact of its programs upon students. A college whose mission includes not only the education of students but community development as well must assess the impact of its programs from a multiple perspective: students and community. Most colleges have developed extensive programs for assessment of impact on students since such assessment is built into the awarding of grades, credits, and degrees even though these processes do not always feed back into program components. Assessment of the impact of college programs on the community is seldom done in a planned, coordinated manner. Appropriate models are not available, faculty and administrators lack skills in this area, and the costs of such assessment are high. Although agreement is evident regarding the need for and importance of this process, the methods and procedures that should be used are a matter of continuing debate.

Economic and social impacts of the college on the community have been the focus of most impact studies in community colleges. The economic effects of college programs and services on the community are most frequently considered in terms of direct and indirect impacts.

Direct economic impact is the dollar effect on the community of the college located in its environs—dollars spent by the college for salaries, expenditures by college personnel for living expenses, business revenue generated by the college through equipment and supply purchases, and state and federal taxes brought into the district because of the college, to name a few of the factors considered. Indirect economic impact is the effect on the economy of the community resulting from the education of students and includes such factors as better educated citizens who earn better salaries and attraction of business and industry because of the availability of training programs for employees.

The social impact of colleges on their communities is generally considered in terms of the value of the institution to the community in service to the social, personal, and cultural needs of inhabitants. The method of assessment most frequently used is determination of the prevailing perceptions that community residents have of the performance of the college in meeting individual and community needs. A second type of social impact assessment is evaluation of the extent to which change or improvement has occurred in the community because of the programs and services offered by the college. This type of assessment, when conducted at all, has usually focused on a specific program or activity and its target constituency.

Assessing Direct Economic Impact

Individual community colleges and selected state systems have undertaken efforts in recent years to measure and publicize the ways in which two-year institutions have brought economic benefits to their districts by virtue of their presence. Such studies have usually dismissed with a disclaimer intent to measure indirect benefits to the community such as a better educated citizenry; they have concentrated on direct dollar benefits. It is not difficult to understand the rationale underlying publication of such measures. They are relatively easy to obtain and they provide positive reinforcement to taxpayers who are increasingly conscious of costs. It is considered a positive stance on the part of community colleges to assure the public that investment in community college education is good business even when one holds constant the obvious benefits of education.

Most of the published studies of direct economic impact have followed the work of Caffrey and Isaacs (1971) published by the American Council on Education. This publication was clearly intended to be a guide and has apparently achieved the desired effect. Analyses of eco-

conomic impact in the community college routinely begin with the assumption that impact exists and that it is very large—clearly returning revenues to the community many times the costs of education. The approach to research includes an examination of such items as expenditures by the college as a corporation, by faculty and staff as private individuals, by students as private individuals, and by visitors to the college as private individuals. These broad data are considered to have a multiplier effect since dollars spent in the community may be spent four or five times over with a decrease in value each time. Rockland Community College (New York), using a multiplier of 1.9, considered that \$1 spent in the community was decreased to 51 cents in the first responding, 26 cents in the second, 13 cents in the third, and thus by the fourth transaction had amounted to a total value of \$1.90 (Poris and Eskow, 1978). In a related study, Mohawk Valley Community College (New York), found similar results, although a multiplier of 1.8 was used because of differences in spending patterns characteristic of the community (Sothderdn and others, 1978). Most studies have been careful to subtract items such as tax revenue lost to the district because of land occupied by the public community college.

In addition to showing that Rockland Community College returned economic benefits ranging from \$24 million to \$29.5 million in exchange for Rockland County's contribution of \$2 million to the college budget, the Rockland Community College study answered such specific questions as: How would the economic impact to the county be affected if enrollment at Rockland Community College were to increase, remain the same, or decrease? What would the effect on economic impact to the county be if 100 Rockland Community College students were to go elsewhere? How would such impact be affected if additional students attended Rockland Community College from other counties within New York State, from out of state, and from abroad? If the college did not exist and the land it occupied could be used to generate tax revenue, what would the differences be with regard to economic impact on Rockland County?

Based on data collected in response to these questions, the Rockland economic impact study verified a general precept reported by Poris and Eskow in their pioneering work: "A rule-of-thumb estimate of the economic impact of a college on its local environs . . . is approximately twice the college budget. A large university will generate more business that is directly college related, such as bookstores and support services for students who live on campus. Twice the budget as a quick estimate has been determined as appropriate to the university condition. For the local community college, however, based on this study and

others, the best estimate is still twice the budget. However, in view of the difficulty in obtaining money currently, it might be politically prudent for a college to do an in-depth analysis of economic impact to ensure accuracy and relevance of data." (1978, pp. 27-28).

Assessing Indirect Economic Impact

The indirect impact of a community college on the economy of its service region is more difficult to assess because the necessary data generally are not available. It is, therefore, less frequently measured by individual community colleges. Areas of indirect impact most often studied are the income levels of graduates, occupations of graduates, levels of job responsibility assumed by graduates, the effect of the college's programs in holding or attracting business and industry, and the role played by the college in reducing local unemployment. Information related to indirect impact is of great worth in demonstrating the value of the college to taxpayers because it relates directly to the educational purposes of the institution while information descriptive of direct economic impact places the emphasis on the college solely as a business and is of limited value. When direct economic impact is considered in isolation, the college is vulnerable to the charge that perhaps a business or industrial installation on the same site would bring a similar dollar return and pay taxes rather than consume them.

In assessment of an indirect impact—that of the income levels of two-year college graduates, for example—it is possible to apply principles derived from previous research to the analysis of impact in a specific institutional setting. The Illinois Community College Board (1978) found that community college graduates earned a median salary \$90 per month higher than students completing one year of college or less. Research on indirect economic impact in California community colleges revealed that the mean income of a male with one to three years of college was \$2,118 higher than that of a high school graduate (Gooder and MacMillan, 1979). In Maryland, it was found that community college students could expect to receive a lifetime return of 26 percent on their investment in a college education (Lanthicum, 1978a, 1978b). These and other studies provide information that community colleges can use to undertake studies of indirect economic impact. Caution should be exercised in the interpretation of data collected by other institutions, but it is possible to apply indicators developed through previous research to the measurement, prediction, and estimation of indirect economic impact in a number of different institutional settings.

Organizing and conducting research pertaining to indirect

economic impact is not beyond the capability of most community colleges. Colleges with a regular program of follow-up research on students invariably collect such data. Basic impact data that should be collected from graduates include indicators of occupation, level of job responsibility, personal income, value of home if owned, rental cost if renting, year and make of automobile, major purchases in the past year, and the amount spent monthly in basic expenditure categories, such as clothing, food, gasoline, utilities, and entertainment. It is also important to know the year of graduation in order that data can be organized according to specific periods of time following graduation. Parallel information collected from citizens with a high school education or less can and should be used for comparative purposes, although such information may be difficult to obtain. Regional businesses and industries that employ high school graduates and two-year college graduates are also a source of comparative data for research on indirect economic impact. Data from these sources can be organized to demonstrate the impact of community college graduates on the community compared to those with less education in terms of income levels, types of job held, expenditures in the community, and the ratio of employed to unemployed.

Information concerning income levels of college graduates is valuable in assessing community impact for at least two reasons. First, a higher level of taxable income means more revenue to the community; second, a higher level of income results in more purchasing power and thereby higher levels of expenditure for housing and durable and non-durable goods. In a recent issue of *Junior College Resource Review*, Alfred (1980) presented a formula for organizing income data, summarized as follows: "As income rises, individual expenditures for goods and services increase proportionally and economic benefits accrue to the community. In other words, economic development is a direct outcome of change in the socioeconomic status of the individual which, in turn, is influenced by college attendance." (p. 1).

Data pertaining to other forms of indirect economic impact such as those related to business and industry may be derived from information supplied by former students about the types of jobs held, patterns of promotion, and levels of management responsibility. For example, if it can be shown that graduates of the college hold a high percentage of supervisory positions in a given industry, then the relative importance of the college to that industry can be inferred. Questionnaires can be used to gather opinions from regional employers regarding such issues as: awareness of the college before deciding to locate in the area, effect of college location on the decision to locate, perception of the college as a

drawing card for other business and industry, satisfaction with college graduates as employees, and importance of the college to business and industrial operations. Variations of these issues can be examined in relationship to human service organizations, such as fire and police departments, hospitals, and governmental agencies, to assess the impact of the institution on public organizations.

Obviously, if a college is able to show a positive relationship to regional business and industry in terms of responsiveness to regional labor needs, attraction of regional business and industry through provision of a trained labor force, and reduction of unemployment, then impact will be considerable (Alfred, 1980). The majority of data should be obtainable through survey techniques. Specific data can be collected through interviews and on-site investigation with key business and industry personnel. The presentation of data should be in narrative and quantified form with a high degree of creativity and skill reflected in treatment of information.

Assessing Social Impact

Included in the mission of most community colleges is development of the community through educational programs that improve the quality of life for residents and bring agencies, institutions, and organizations together for the purpose of community renewal through identification of solutions to pressing problems. Progress toward these social goals may be measured by determining the impact of the college's programs upon its individual students through traditional means of student outcomes assessment. A second method of assessment of progress in this dimension is examination of the perceptions various groups and constituencies have of the college and its programs. Such data can be gathered by survey techniques and are relatively easy to obtain. Among the most useful information available related to social impact is that published in a case study and handbook format by the National Center for Higher Education Management Systems (NCHEMS). *Assessing Community College Impacts: Three Case Studies* (Lake, McClenney, and Gollattscheck, 1979) provides an overview of the impact assessment programs undertaken by three community colleges in 1977-78. A companion document, *Conducting Community Impact Studies: A Handbook for Community Colleges* (Armijo, Micek, and Cooper, 1978), is a detailed how-to manual for the college seriously interested in conducting impact studies. It contains not only procedures and results of the three case studies but also copies of the instruments used in surveys of three communities.

The colleges included in the NCHEMS study were carefully selected to represent a differentiated typology of colleges and communities:

- Kalamazoo Valley Community College is a single-campus institution located in Kalamazoo, Michigan, with an enrollment of 14,000 students in credit courses in 1979 and the same number in noncredit activities. KVCC serves a geographical region with a relatively stable population and is representative of single campus institutions located in geographical regions in which growth rates have leveled.
- Eastfield College is one of seven colleges in the Dallas Community College District. In 1978 Eastfield College had an enrollment of 8,000 students in credit courses and an additional 4,000 in noncredit programs. The population of Eastfield's district, including most of suburban east Dallas County, increased from 300,000 to 400,000 residents between 1970 and 1977. Eastfield College is representative of community college in areas of rapid growth as well as those in multicollge districts in large metropolitan areas.
- Valencia Community College, located in Orlando, Florida, is a multicampus institution, which had an enrollment of 7,000 credit students and 15,000 noncredit students in 1979. It serves a 2,500 square mile service region characterized by a highly mobile population of approximately 500,000 residents. Valencia is representative of those colleges which, in addition to offering "traditional" programs, emphasize noncredit community service courses and programs offered in a "campus without walls" arrangement in multiple locations throughout the service region.

While each of the three colleges planned and conducted its own study in accord with specific categories of information required by institutional staff, the studies were more similar than dissimilar. Each institution began with a task force or committee charged with planning and overseeing the study. At Kalamazoo Valley Community College, the president selected seventeen individuals to serve on the advisory committee, including superintendents of local school districts, members of local school boards, and representatives of business, industry, and local government. The president of Eastfield College appointed a task force of five staff members with special expertise in research, counseling, community involvement, and professional and vocational programming. At Valencia Community College, the president established a coordinating committee composed of fourteen members of the administrative staff

assisted by task forces established for specific target populations in the community. Each task force included representatives from the target group to be surveyed.

The goals established by each college in the planning phase for the social impact study reflected institutional circumstances and concerns. Kalamazoo Valley Community College was approaching its tenth anniversary and wished to evaluate the impact of its programs, policies, and services in relationship to the community. Specifically, the college wanted to examine: (1) how well it was achieving its goal of imparting knowledge and skills necessary for students' career advancement, personal development, and personal recreation and enjoyment; (2) the level of community awareness and satisfaction with the college's programs and services; (3) the number and types of unmet community needs; and (4) the types of information systems needed for measuring future changes in the impact of the college on its community. Eastfield College used the impact study to further institutional knowledge about the degree of community awareness of the college, the degree of individual participation in college programs, the level of satisfaction with programs and facilities of the college, expected use of college facilities and unmet community needs. The objective underlying Valencia Community College's participation in the study was to determine the success of its programs in achieving institutional goals and objectives. Of particular interest were procedures for the development of a model for assessing community impacts and needs that the college could use in future surveys, the design and administration of survey instruments that would provide a data base for the college to assess its future impact, and the development of a pilot program to refine research techniques for conducting similar studies at other institutions.

Each college used different techniques to identify the constituent groups to be surveyed in the impact assessment. At Kalamazoo Valley Community College, the study included registered voters, employers, educators, social agency directors, civic leaders, and the faculty and staff of the college. At Eastfield College, the target groups for study included residents of Eastfield's area of service, selected employers throughout the county, teachers and counselors at feeder schools, graduating seniors of feeder schools, and Eastfield faculty and students. At Valencia Community College, the study included citizens, students, faculty and staff, educators, employers, social agency directors, and civic leaders.

Although the constituencies surveyed were similar among the colleges, the approach used for research on social impact did vary. Staff

at Kalamazoo Valley Community College, for example, determined that the service area population could best be surveyed by using lists of registered voters. Registration lists conformed to the college service region since institutional and voting district boundaries were determined conjointly by school districts. At the same time, persons who had voted on previous millage increases would constitute a useful target population because the mix of positive and negative preferences toward education reflected in the voters would probably be representative of the total population. A stratified sample of 1.6 percent of the population (2,001 persons) was drawn from the 122,270 voters registered in the ten school districts of the college service region.

Eastfield College used a stratified sample of 2,913 persons, 2 percent of the registered voters drawn proportionately from seventy-eight precincts within the college's service area. Buyers of newly constructed homes were also included to produce a sample of 225 persons. A total of 3,138 residents received survey instruments.

At Valencia Community College, local citizens proved to be a difficult population to survey. Recognizing the mobility of the 500,000 central Florida inhabitants in the college's service region, staff at Valencia anticipated difficulty in procuring up-to-date mailing lists. After investigating several methods, a decision was made to use a private mailing service. The Office of Institutional Research identified appropriate sampling procedures and worked with a mail processing firm to distribute surveys to approximately 11,000 households, 23 percent of those in the service region. A computerized list, organized according to mail courier routes, allowed every fifth residential unit to receive the survey instrument along with a letter from the president and a stamped, return envelope.

To determine social impact in relationship to business and industry in the community, a variety of research techniques was used. Kalamazoo Valley Community College conducted a survey of all employers listed in the Kalamazoo County Chamber of Commerce membership directory, the Kalamazoo Area Directory of Manufacturers and Processors, and the Kalamazoo Valley Community College Placement Office list of employers. Eastfield College selected a random sample of 20 percent of 505 employers from a list of employers in East Dallas County. Valencia Community College surveyed 490 business firms in the district identified through a mailing list of the 200 largest businesses in central Florida from the Greater Orlando Area Chamber of Commerce, a list of 200 smaller industrial firms from the Florida Industrial Guide (Department of Commerce), and a list of 90 local personnel

managers. Information concerning the success of each college in gathering data from each of its target populations is presented in Tables 1, 2, and 3 (Lake, McClenney, and Gollattscheck, 1979).

All three of the colleges attempted to survey a sample of residents in the service area with regard to the degree to which the college was perceived as meeting its mission, goals, and purposes. In the Kalamazoo Valley Community College survey, the overall purpose of the college was stated and then the question was asked, "Given this overall purpose of KVCC, how well is KVCC achieving this goal?" At Eastfield College the first item in the citizen's survey was the following: "One of the goals of Eastfield College is to develop and maintain variety in program offerings and to endeavor to respond to developing community needs. How well is Eastfield College achieving this goal?" In the Valencia Community College survey of citizens, the institutional mission was stated and then eight objectives that had been developed from the mission statement were explained. The respondents were asked to indicate how well they felt Valencia was achieving each objective.

Other items in the institutional surveys of citizens included questions about the educational needs in the community that the college was not meeting; community awareness of various types of college educational programs; individual enrollment in a course or program at the college; the degree of satisfaction with the college; college facilities and

**Table 1. Survey Populations and Samples for
Kalamazoo Valley Community College**

<i>Target Population</i>	<i>Population Size</i>	<i>Sample Size</i>	<i>Percent of Total Population</i>	<i>Usable Questionnaires</i>	
				<i>Number</i>	<i>Percentage Returned</i>
Registered Voters	122,270	2,001	1.6	400	25%
Faculty and Staff	407	407	100	196	49%
Employers	355	355	100	193	54%
Educators	3,740	935	25	398	42%
Social Agency Directors	?	25	?	16	64%
Civic Leaders	?	70	?	45	64%

Table 2. Survey Populations and Samples for Eastfield College

Target Population	Population Size	Sample Size	Percent of Total Population	Usable Questionnaires	
				Number	Percentage Returned
Eastfield Faculty	537	108	20.0	67	63%
Eastfield Students	7,975	1,595	20.0	1,062	68%
Service area Residents	148,850	2,937 ^a	2.0	267	9%
Employers ^b	2,525	497 ^a	19.7	78	16%
Feeder school Seniors	4,915	975	19.8	700 ^c	72%
Feeder school Teachers and Counselors	1,296	326	25.0	800 ^c	55%

^aSample size reflects adjustments for survey instruments returned as undeliverable.

^bPopulation defined as those employers in Garland and Mesquite Texas, and in the Pleasant Grove district of Dallas, Texas.

^cThree feeder schools chose not to participate in the study.

services used by the respondent; types of courses that the respondent would prefer to take at the college; particular problems that would make it difficult for the respondent to attend the college; how the individual had learned about the courses, programs, and facilities of the college; and awareness of the various campuses or centers of the college. In each case, respondents were asked to give such background information as age, sex, marital status, racial and ethnic background, category of income of total household, and, in the case of the Valencia survey, the location of home residence and place of employment according to a map divided into five zones. Background data received from individual respondents enabled each college to categorize responses in a variety of ways to determine whether some population groups had been better served than others and whether specific geographic regions in the community were underserved.

All three colleges reported that the social impact study had been of considerable value in terms of planning for the future. At each college impact data was used to improve institutional programs and services.

**Table 3. Survey Populations and Samples
for Valencia Community College**

<i>Target Population</i>	<i>Population Size</i>	<i>Sample Size</i>	<i>Percent of Total Population</i>	<i>Usable Questionnaires</i>	
				<i>Number</i>	<i>Percentage Returned</i>
Educators	4,944	4,944	100	929	18%
Employers	490	490	100	91	19%
Faculty and Staff	453	453	100	294	65%
Social Agency Directors	238	238	100	294	5%
Students	8,242	3,000	36	1,870	62%
Citizens	179,000	41,000	23	1,945	5%
Civic Leaders	200	—	100	—	—

Note: Target population categories were described as follows:

Educators: Public school faculty and administrators

Employers: Selected categories (large or small)

Faculty and Staff: Full-time Valencia employees

Social Agency Directors: Agencies listed in information and referral directory of Orange County

Students: Credit students

Citizens: Residences in district

Civic Leaders: Selected individuals by category

For example, Eastfield College described its use of impact data as follows:

Eastfield College has already used the results of the study to improve planning and to enhance its public relations. For example, since the study revealed that transportation to and from Eastfield was a problem for only a few persons, the college eliminated its request to the local transit authority for a feasibility study to determine whether special bus routes to the college should be established. As a result of the study, Eastfield decided to:

- offer more occupational-technical and community-service courses at off-campus locations requested by employers
- schedule meetings between Eastfield counselors and seniors at local high schools and provide information about Eastfield to juniors at those schools

- develop special courses in health, human services, transportation, law and public administration, and business management for students graduating from local schools
- refine its support services and evaluate the college's Learning Resources Center
- increase its public relations budget by 30 percent and concentrate on increasing awareness of the college in those precincts in which its visibility is relatively low.

Impact in Retrospect

The studies just described examined perceptions of college impact through survey research techniques. While each college felt the process was worthwhile, each recognized weaknesses in sampling, biases in terms of those who chose to respond, and difficulty in writing clear, concise questions. The quality of the data was only as good as the skill and ability of the institution to plan, conduct, and fund the study.

For the most part, a survey of community perceptions provides opinions about the college's impact and not, in most cases, an actual measure of impact. Community-based institutions should examine their impact on the community in more detail by using empirical measures. More attention should be given to quantitative measures of impact as a focus of research, and reliance on perceptual measures should be curtailed. The NCHEMS and the Alfred models cited earlier provide excellent outlines of impact criteria needing examination. Alfred, for example, presents five components—social mobility, cost benefits, economic development, community renewal, and social controls—and provides measurable indicators for each. While the Alfred model comes closest to providing a guide for direct examination of impact, it requires documented case study utilization to be of more assistance to community colleges.

Whatever model of community impact assessment a college decides to use, it will have a choice of techniques and procedures: application of the findings of other studies to the current study, rule-of-thumb estimates, gathering data from institutional files, conducting surveys of community perceptions, and investigation of impact through direct quantitative measures. The appropriate model for assessment of a college's impact on its community is one involving a combination of methods since each method has advantages and disadvantages:

1. *Findings of other studies and rule-of-thumb estimates* provide useful insight in areas where limited resources or problems in research might prohibit the college from conducting its own study. For example, few colleges are able to study income levels of their graduates and compare them to a noncollege population with any degree of statistical reliability. Detailed studies such as those by Goodman (1979), Quatrociocchi (1980), and others mentioned earlier in this chapter provide excellent data to help the college understand and report its probable impact on the community.
2. *Data from the institutional files* are basic and useful. A considerable amount of information is available within any college. Much of the information presented in studies of direct economic impact are derived from college records. Other types of impact studies begin with, and are based on, careful examination of data available in the college.
3. *Data gathered via survey* are necessary and useful. Survey data may assume the form of experiential or perceptual data depending upon the nature of the questions asked. Both types of data are essential in determining impact. It is important to collect data related to quantitative measures of impact such as how many employees in various jobs have attended the college. It is also useful to obtain perceptual evidence of impact such as employer opinions of the college and its programs.
4. *Data gathered from direct investigations* will be time consuming and expensive to the institution, but must be collected as part of a comprehensive assessment. Direct investigation through interviews, review of community agency records, or meetings with representatives of a target population is needed to enhance the reliability and credibility of the impact study. Survey techniques can help identify areas needing more direct investigation so time is not wasted and the college receives the most for its research dollar.

Assessment of the impact of a community college on the community through its programs, activities, and relationships with individuals, agencies, and organizations in the community should be an integral component of management in a community-based college. The press for accountability in higher education made acute by increased competition for shrinking tax dollars mandates institutional attention to the impacts of programs and services on the community. Institutions need to become more concerned with finding ways to prove their dollar value to taxpayers and to those elected officials who control those dollars. Community colleges, with their unique commitment to provide for the

needs of the community as well as the needs of individual students, faculty, and administrators should be concerned about their success in both areas. Community colleges with a heavy concentration of community education programs, already poorly funded by many local governments and state legislatures, are in even greater need of proving their worth. Planned, coordinated programs that assess the social and economic impact of community colleges on the community constitute an important tool for putting information in the hands of decision makers.

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Few colleges can expect to succeed in the 1980s by being all things to all people. Community colleges, like all other institutions, must consider their goals and impact in the larger higher education system when developing plans for the future.

Emerging Relationships Between Community Colleges and State and Local Agencies

Paul Wing

State agencies play an important role in higher education. Their precise activities vary depending on legal mandates and historical precedents, but in most states coordinating councils and governing boards are responsible for: planning and setting goals and objectives, allocating resources to programs and institutions, approving capital projects and new instructional programs, monitoring institutional performance and review of programs, and providing information and guidelines for campus planners. These functions correspond to a variety of relationships that exist between colleges and universities and the different constituents they serve that provide financial support. They represent the

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mechanisms that have evolved for monitoring and controlling the higher education enterprise.

In recent years state and local agencies have exerted a growing influence on community colleges. Fiscal pressures spurred by inflation have necessitated government agencies at all levels to review major programs, including community college education, as potential areas for spending cuts. Driven by public pressure and unanswered questions about the value of a community college degree, state agencies are asking college administrators probing questions about the outcomes, impacts, and cost benefits of their programs. These questions reflect in large part the concerns of planners and policy makers to locate and identify the best ways to allocate scarce resources to serve the needs of society.

Very often the questions posed by state planners and policy makers are poorly coordinated and inconsistent. Questions come from agencies and individuals with different interests, agendas, and priorities. Even more important, community college education is a complex enterprise, and its programs and their relationship to state goals and funding priorities are not well understood. However, policy makers can readily understand elements of this relationship—for example, the impact of labor development programs in community colleges on state needs for trained workers—and resulting impacts on the achievement of agency and institutional goals. The objective of this chapter is to explore emerging relationships and forms of impact between community colleges and state agencies. The linkage between institutional goals and agency needs is emphasized and strategies are outlined for improved understanding of impact through sharing of information. The rationale is that impact can be better understood if community colleges and state agencies identify consensual goals and exchange salient information. Together, these elements are a nucleus for cooperative planning and decision making relative to the allocation of resources.

Community Colleges and the Expanding Market

Community colleges are an increasingly important element in the broad spectrum of higher education in states and localities. Stressing entry-level access for mass audiences, they have provided the major thrust toward making higher education available to all segments of society. Community colleges have a strong tradition of community service, derived mainly from their local funding base. In addition, their geographic dispersion and diversified sources of revenue have combined to provide them with a significant price advantage in the recruitment of

**Table 1. Relationships Among Postsecondary Education
Goals and Providers**

<i>Goal/Objective</i>	<i>Provider</i>	Community Colleges	Vocational Institutes	Liberal Arts Colleges	Comprehensive Colleges	Universities	Major Research Universities	Specialized Colleges	Community Organizations	Business/Industry	Labor Unions	Elementary/Secondary Schools	Universities without Walls	Credit by Examination
Access to Higher Education		○		○	x	x	x	x					x	x
Remedial Education		x	x	•	•				•			x		•
Graduate Education					•	x	x							
Professional Education						x	x	•						
Basic & Applied Research						x	○							
Adult Education		○	x	x	x	x	x	x	x					
Liberal Arts Education		x		○	○	x	x	•						
Noncredit Studies		x	x		•				x	x	x	x		
Occupational Training		○	○						x	x	○	x		
Local Labor Market Support		x	x						x	•	x	x		
Support for Local Businesses		x	x			•								
National/State Labor Market Support		•	•	x	x	x	x	x		•	•			
Career Counseling		x	x	x	x	x	x	x	x		•			
Job Placement		x	x	x	x	x	x	x	x					

Key: ○ A Central goal of most providers
 x An important goal of most providers
 • A goal of some providers

students. In combination with their tradition of open access, these factors have led to what in any enterprise would be considered phenomenal growth over the past two decades.

Over this period, in response to a variety of needs and encour-

aged by increased funding, community colleges have developed new programs to serve new clienteles. Remedial and compensatory programs have become essential elements in the academic programs of many students. Programs for adults have flourished as colleges have taken programs to the community, in terms of content, location, and time. In developing these new thrusts, community colleges have been quick to take advantage of the possibilities for integrating and coordinating their dual goals of academic and vocational preparation.

Although community colleges have achieved a comparative advantage over other types of colleges in the competition for students, they do not maintain a monopoly with respect to key program areas. Table 1 shows that there are market contenders, or partners, across a broad range of service goals. In recent years there is evidence of erosion of the dominant position of community colleges in several of the goal areas. This is particularly true in geographical regions such as the Northeast where institutions of all types have initiated intensive efforts to adjust to changing demographic conditions. Two-year and four-year colleges alike have begun to diversify internally by expanding their program offerings and by grafting successful procedures and strategies of other institutions into their own institutions. For example, open admissions has become the rule at a growing number of institutions, and if survival were at stake, many others would quickly move in that direction if the benefits could be demonstrated to outweigh the costs. Occupational training, once known primarily as a characteristic of community colleges, is now a characteristic of virtually all institutions. Few programs in the 1980s are devoid of linkages to the job market.

Community colleges, too, have been diversifying. Expanded program offerings, new off-campus locations, and new clienteles are increasingly common in many two-year institutions. Expansion of mission, along with natural demographic changes, have contributed to a growth in enrollment greater than average for community colleges in recent years. Policy makers must understand, however, that diversification strategies can undercut the competitive position of the institution. Any enterprise that overextends itself by trying to be all things to all people can quickly become vulnerable to smaller, more specialized competitors. This could be a critical factor for community college development in the 1980s where systemwide diversity is decreasing as more campuses diversify internally (Moran, 1981). This means that community colleges will become less unique in the years ahead, thereby diminishing the effectiveness of the argument that they are the best institutions to provide a particular type of education or training.

Geographical and price advantages will likely guarantee a certain baseline clientele for community colleges. However, this clientele will be subject to demographic changes, so that community colleges may become more vulnerable to factors beyond their control. To succeed in the future, community colleges will need to carefully examine their goals and impact in the larger state system of education. This will mean cooperative efforts with state agencies to assess and articulate goals for higher education and to determine the capacity of community colleges to satisfy these goals through benefits they produce with specific constituencies.

Agency and College Relations

Good relations between a community college and its various state and local agencies can mean the difference between success and survival for any institution. When relations are good, funding is generally adequate. There are fewer uncertainties and unanswered questions. Communication is open and timely. There is earlier warning of changing patterns, and the institution has the potential to produce favorable impacts with state and local agencies.

In a period of declining resources, many factors may impede the development of ideal working relations. Pressures and counterpressures associated with shrinking resources may create an environment of suspicion and mistrust. Personalities may cloud otherwise sound relationships. Information may be incomplete or unreliable. Different objectives may be in conflict with one another, creating interpretation problems and making choices difficult. There may be jurisdictional disputes that make problem resolution difficult. None of these problems makes good agency and college relations any less important, only more difficult to attain.

Good relations are ultimately rooted in common information about goals and outcomes. Several factors are integral to this information network: well defined goals and objectives, timely institutional responses to inquiries and requests for information, accurate and relevant information about outcomes and cost benefits, and precise explanations of actions and requests. All of these factors, of course, assume consistency between college and agency objectives, that is, a foundation to work together.

The growth of community colleges in recent years indicates that working relationships have been excellent, and there is no reason to believe that they will not continue in the same vein in the future. Review of the four criteria in the preceding paragraph, however, indicates that

improvements are possible in most agency and institution relationships today. Few state or local agencies have dealt effectively with the task of identifying specific, measurable goals and objectives. Few colleges are able to describe and document adequately their impacts on society and the costs of their various programs. Some community colleges, particularly those that have been successful in obtaining support through political processes and rhetoric, may resist movement toward the more quantitative and systematic analyses necessary to specify goals and estimate impacts. It seems inevitable, however, that state and local agencies will expect better documentation of program outcomes and costs as part of their regular resource allocation process. Since maneuvering in political arenas is usually most successful when desired outcomes are consistent with common understandings of the needs of institutions, there is always room for better information.

The efforts of state and local agencies at quantitative analysis and interpretation, although often imperfect, have improved in recent years to the point where a more systematic and numerical approach to information sharing is both desirable and feasible. The remainder of this chapter assumes that there will be a trend toward more systematic and quantitative communication between community colleges and state agencies in the future. Improvement in communication should lead to improvement in the allocation of resources as public two-year colleges experience benefits associated with improved funding formulas, common understanding of institutional mission and goals, and understanding of the role of community college education in the development of the state and local economy.

Matching Institutional Goals with Agency Needs

Community colleges have a number of incentives for cooperating with state agencies in providing information about institutional goals and program outcomes. Changes in society and higher education will be numerous during the next decade. Table 2 presents examples of special issues that community colleges must examine in the future to ensure a close match between institutional goals and agency needs. The issues cited are designed to show institutions that, in formulating goals for the future, faculty and administrators should not overlook the fact that the regional, state, and national environment for higher education is likely to be quite different in 1990 than it is today. This will certainly be true in selected subjects and disciplines, for example, robotics, communications, and information management; it is likely to be true in the

Table 2. Issues for Community Colleges Serving Specific Needs

<i>Needs</i>	<i>Special Issues</i>
1. Provide access to higher education	Enrollment base is declining. New clientele to maintain enrollment levels will require new programs and strategies.
2. Serve local businesses and industries	Tailor-made programs may require tailor-made financing arrangements for both colleges and students
3. Provide alternatives to local unemployment	Individuals debating between job and college will choose college in times of unemployment
4. Provide low cost, local options for access to higher education	Commuter options are a big advantage for community colleges. This option may become increasingly important.
5. Provide remedial education	Lack of clarity exists about where remediation should take place; secondary programs may be more cost effective. Caution must be exercised not to undercut higher education standards.
6. Provide education for adults	Avocational and noncredit programs will move toward self-sufficiency; tuition or fees will cover direct costs.
7. Training and retraining for business, industry, labor	Close working relationships with local business may provide critical markets for community colleges in the 1980s.
8. Provide high quality in whatever mission and program mix selected	Poor or good quality will eventually come to the attention of students and prospective students and cause enrollment decreases or increases.
9. Provide occupational training	New technologies, particularly in electronics, will cause significant changes in both curriculum content and teaching methods.

make-up of the population as well. If community colleges do not take such changes into account, significant mismatches could occur between institutional goals and agency needs that could result in massive enrollment and finance problems for colleges in the future.

To formulate meaningful goals for the future, community colleges will need accurate and detailed information about state and local needs. Unfortunately, information of this type is seldom readily avail-

able. Agencies in some states have attempted to document goals and objectives of higher education, but for the most part the results tend to be mainly rhetoric. Astute administrators, through conversation and careful observation, can determine political priorities and administrative preferences, although there is the risk these will change rapidly with little advance warning. Change in agency priorities is likely to occur on a regular basis, however, and those close to the political process will generally have early knowledge of change, which can be very useful in developing strategies for the future.

With or without information on state and local needs and priorities, a community college can take additional steps to pinpoint goals and establish funding priorities. Detailed knowledge of other actual or potential providers of educational programs and services related to institutional goals and objectives can be invaluable for effective planning and resource allocation. Table 1 suggests one way of displaying the information, although more detail would be necessary in the goal and provider dimensions for effective use at the college level. For example, a community college may have an objective of providing occupational retraining for employees in outdated career fields. College staff would need to collect information related to other institutions or organizations that provide similar or identical services. If there is an actual or potential competitor, the institution should attempt to determine the advantages and disadvantages of each provider for use in state-level planning and resource allocation decisions. This kind of information could provide the critical ingredient that would shape the allocation of resources to institutions with competing programs.

A more important example might be the provision of initial access to higher education for recent high school graduates and adult citizens in a particular service region. For many community colleges these are primary target groups for enrollment. It is vital, therefore, to know whether, when, and in what ways other institutions expand their recruitment efforts or alter their programs to attract these students. It is also important to know how changes in student aid programs at the federal and state levels change the relative costs of the programs offered in different institutions.

Ultimately, this kind of information is critical in making the case for improved or stable funding. If state agencies are faced with questions of retrenchment or survival, they will certainly want evidence about the cost effectiveness of programs in different institutions. Combined with effective communication about institutional goals and objectives, an approach based on information about outcomes and impacts can provide a

strong stimulus to funding agencies to outline their goals for higher education. If agency objectives remain elusive or unspecified, this approach can be useful to identify what an agency is willing to pay for. Inferences can be made about the programs and services that will receive attention from funding agencies and plans developed for institutional operations in these areas. Benefits accrue to community colleges that develop an understanding of agency initiatives and translate this understanding into accurate assessments of activities that should be planned and budgeted in response to state and local needs.

Another step that could prove useful to community colleges in establishing goals congruent with state needs and funding priorities is the use of surveys to identify matches and mismatches between services desired and services actually provided. Comparisons of this type can be done for a variety of different facets of a college to provide data for resource decisions. College staff might conduct a follow-up study of recent graduates and nongraduates to assess the usefulness of the courses they took. Currently enrolled students can be surveyed to gauge their satisfaction with various services offered by the college. Institutions might adapt the approach used by Cross (1981) in a recent national survey of community college goals. Faculty, administrators, trustees, students, and community leaders were asked to cite differences between what community college goals are and what they ought to be. The resulting data furnished important insights into how well community colleges are conceptualizing and implementing various goals. Cast in specific terms related to a particular college, such a survey could provide invaluable information to establish priorities for goal achievement, resource allocation, and program development. If the survey was expanded to include representatives of state and local agencies, the results could be used to document consistencies and inconsistencies between college and agency goals.

To the extent that a community college is able to accurately predict the nature and direction of change in state and local conditions—and is willing to take risks by adjusting programs and services accordingly—it has the opportunity to enhance its position significantly. The converse is also true: if predictions made by community college faculty and administrators are inaccurate or if inappropriate responses are chosen, the issue (for the institution) may be one of solvency or survival. Each college must decide whether the best course of action is pursuit of such risks. Recognize, however, that just as likely there are significant risks involved in passive acceptance of change while competing institutions take active risks to enhance their positions.

Assessing Institutional Impact

A problem that arises in implementing the systematic approach to goal assessment and formulation just outlined is the identification of appropriate indicators for determination of the performance of community colleges in serving state and local needs. If identified needs have been translated into institutional goals, what types of performance indicators can community colleges use to examine the impact of their programs and services in relationship to these goals? Although it is not possible in this chapter to provide a comprehensive account of indicators of community college impact, it is possible to illustrate the kinds of indicators that might be useful in providing information about the impacts of community college education to state and local agencies.

Table 3 provides a series of measures corresponding to different constituent groups in the community college. Each group is divided into impact categories in which specific measures of institutional impact can be tabulated. In the constituent group of students, for example, it is possible to measure institutional impact in four categories. Similar measures can examine institutional impact in relationship to constituent groups of faculty and state and local agencies. In each case a suggestion is provided concerning the direction of change necessary to improve the performance of the institution. Change will generally be advantageous to the constituent group.

The constituent group of state and local agencies will be of particular interest to community college faculty and administrators because it contains impact measures that can be used to support budgetary requests to state legislatures and coordinating boards. Each of the three impact categories have a unique relationship to institutional goals and agency criteria for decisions about the allocation of resources. In the category of resource requirements, it is important to measure change over time in a community college's resource needs as an indication of the extent to which programmatic adjustments have been made by the institution in response to changing state resource conditions. Facing a condition of austerity, state and local agencies will respond positively to measures of reduced institutional resource requirements evident in data reflecting a decline in the level of faculty and staff, reduced expenditures per full-time equivalent student, increasing student to faculty ratios, and declining expenditure per student and degree. Community colleges that can produce quantitative data to show change in resource requirements, and the programmatic and budgetary impacts thereof, should be able to make a strong case for improved support if and when regional economic conditions dictate a change in funding policies.

Table 3. Measures of Impact for Community Colleges

<i>Constituent Group Impact Category</i>	<i>Suggested Impact Measures</i>	<i>Desirable Direction</i>
<i>Students</i>		
Student Development	Scores on achievement tests	↑
	Transfer performance in 4-year programs	↑
	Success on job (via follow-up survey)	↑
	Cohort survival rates	↑
	Performance on licensing exam (in appropriate fields)	↑
Curriculum	Job placement performance (via follow-up survey)	↑
	Match with job market as indicated by placement rates	↑
	Deletion, modification, or addition of courses and programs	↑
	Student opinions of program quality	↑
	Courses per full-time equivalent faculty	↑
Instruction	Existence of faculty development program	↑
	Student/Faculty ratios	↓
	Match of student needs and modes of instruction used by faculty	↑
	Instruction dollars per full-time equivalent student	↑
Support Services	Library volumes and utilization rates	↑
	Resources for and utilization of counseling services	↑
	Resources for and utilization of remedial services	↑
<i>Faculty</i>		
Compensation	Salary levels	↑
	Salary per course equivalent	↑
Professional Opportunities	Promotion opportunities	↑
	Tenure provisions	↑
	Travel allowances	↑
	Courses per faculty	↓
<i>State and Local Agencies</i>		
Resource Requirements	Total budget	↓
	Change in budget	↓
	Salary levels of faculty and staff	↓
	Expenditures per full-time equivalent student	↓
	Student/Faculty ratio	↑
	Expenditures per student and degree	↓
Attractiveness	Numbers of applicants divided by local high school graduates	↑
	Test scores of entering students	↑
	Market share of enrollments	↑
	Admissions yield rate	↑
	Change in enrollment relative to all community colleges	↑

Table 3. Measures of Impact for Community Colleges (continued)

<i>Constituent Group Impact Category</i>	<i>Suggested Impact Measures</i>	<i>Desirable Direction</i>
<i>State and Local Agencies</i>		
Attractiveness (continued)	Number or percentage of out-of-district students	↑
Organizational Health	Clarity of institutional plans and budgets	↑
	Average tenure of chief executive officer	↑
	Shifts in shares of enrollment for key student categories	↑
	Faculty and staff morale (via survey or expert opinion)	↑
	Availability of information	↑
	Condition of physical plant	↑

The attractiveness and organizational health categories require a different format for impact data than that described in resource requirements. These categories contain data that can be used by two-year colleges in a healthy state economy to improve their competitive position in the quest for public resources. For example, if community college faculty and administrators can show that a rising proportion of regional high school graduates are entering the college, test scores of entering students are on the rise, increasing numbers of out-of-district students are enrolling in the college, changing patterns of enrollment are evident in relationship to other colleges, and the market share of enrollment is high, then a case for improved funding can be put forward in comparison to other colleges.

A similar trend can be observed in the organizational health category. Community colleges that operate on the basis of precise plans and budgets, collect and maintain data that demonstrate high morale among faculty and staff, operate an efficient physical plant, document shifts in the share of enrollment in key student categories, and regularly collect and disseminate information on the impacts and cost benefits of college programs and services can develop an advantage over other types of institutions in appropriations decisions. Caution should be exercised in the use of impact data with state agencies because conflicts can arise within and between institutions regarding the interpretation of such data. The measures in Table 3 suggest, for example, that state and local agencies will generally be better served by higher student-faculty ratios. The ability of various higher education institutions to achieve desired ratios depends heavily on the mission and types of programs offered by a particular institution, with some institutions better able to

achieve high ratios than others. Such conflicts are ultimately addressed and resolved in the political process in which resource decisions are made. All factors being equal, it is better to collect impact data for use in resource allocation decisions than to ignore such data and rely on political rhetoric and sympathetic staff to resolve problems.

When working with impact measures, it is generally not sufficient to place sole reliance on one set of values. A good strategy is to use comparative statistics indicating change over time for a single community college, comparable statistics for several community colleges, and aggregate comparisons of community colleges with other types of institutions. Presently, information is not sufficient about these indicators and how they relate to each other to determine that an absolute value of 50 percent on a particular measure is good or bad. It is easier to justify an increase in the value from 48 percent to 52 percent as good, or that improvement has occurred in the progression from 48 percent to 52 percent. Comparative strategies of this type should be used with caution, however, since statistics are not always valid and reliable.

Summary and Conclusion

A fundamental premise of this chapter is that the availability of a wide range of indicators of the extent to which certain goals — goals with a definitive relationship to state and local needs — are achieved by a community college will improve planning and resource allocation decisions. The 1980s and 1990s are going to be periods of significant change for higher education. Community colleges, like all other institutions, must be prepared to make changes and take risks to ensure success and survival. One area that needs more attention is the relationship of higher education institutions to state and local agencies. This is particularly important for community colleges because they receive support from both levels of government. Driven by general concerns about excessive government spending, state and local agencies are scrutinizing funding requests more carefully and are asking for more information about the outcomes and impacts generated by community colleges. College leaders must understand the various goals and impacts of community college education in the state and locality both now and in the future. Ideally, these goals should reflect not only the mission of the college but those of actual and potential competitors as well. A carefully developed statement of goals should provide a basis for assessing the advantages and disadvantages a specific community college has in achieving each

goal. Only with comparative information will it be possible to develop the programs and strategies necessary to adapt the institution to its environment and identified competitors.

Of signal importance in developing strategies for the future is the precept that a college should do well whatever it sets out to accomplish, even if this means scaling down or phasing out peripheral programs and activities. If community college faculty and administrators cannot make the case clearly to state and local agencies and to the community at large that programs and services are effective and efficient, they will risk losing funds and enrollment to those institutions that can.

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Understanding the impact of federal policies and programs on community colleges and a statement of the benefits of community college programs to the community, the state, and the nation are prerequisites for shaping federal policies to meet institutional needs. State boards, trustees and administrators, and national organizations must work together to improve community college impact through expanded awareness of institutional needs.

Shaping Federal Policy to Maximize Institutional Impact

Joseph P. Cosand

Mary Jane Calais

Recent discussions with staff members of the American Association of Community and Junior Colleges (AACJC)—in particular, a discussion on October 2, 1981—indicate agreement on the fact that community and junior colleges have not examined and analyzed the impact of their programs, services, and political strategies on federal policies and programs. However, there is also agreement that over the past thirty-five years, since the end of World War II, there has been an increasing dependence of these colleges on federal financial aid and entitlement programs. The failure to examine community colleges' impact upon federal policy does not mean that there is an absence of impact. College presidents are informed of pending and actual legislative activities by AACJC through a vice-president for legislation and are encouraged to maintain close and continuous liaison with their respective representatives, senators, and congressional aides and with members of the pertinent congressional committees. It does mean, however, that there is little, if any, ongoing analysis of the impact or effectiveness of the actions taken

by the AACJC staff or by the college presidents in relationship to the development or operation of federal policy and programs.

During fourteen months in office as deputy commissioner of higher education in the U.S. Office of Education and in countless discussions over the past twenty years with representatives and their aides, especially Al Quie, John Brademas, Edith Green, William Ford, and Tom Wolannin, we have noted harsh criticism of college presidents and staff for their negligence in contacting and informing congressional personnel and aides about colleges' needs, programs, and services. There is considerable ignorance among federal officials about the total educational program of the community college in relationship to its multifaceted mission. There is also bewilderment as to why institutions neglect to make contact with representatives in the local service region and why they seem disinterested in federal contacts during various conferences and meetings in Washington, D.C. There is complete agreement that contacts with congressional personnel should not be the exclusive or primary responsibility of AACJC staff, but that the representatives, senators, and aides need to maintain direct contact with college presidents and staff in the field.

There are similarities between the views of governing bodies in Washington, D.C., and the views of the governing bodies in the various states. The general feeling is that federal and state officials are contacted only when something is wanted, and, as one would expect, this feeling can easily turn into a negative reaction toward any request for support or assistance. There is also a feeling that institutional staff maintain a strong concern about the revenues and resources available to support institutional programs, but fail to exhibit a similar concern about the outcomes or impacts generated by these resources. A high percentage of telephone calls and visits from the field to one of the authors during service as deputy commissioner of higher education concerned only requests for assistance to a specific institution. There was little or no input from the field of a broader nature descriptive of educational problems or needs facing community colleges at the state or regional level. Education of the federal bureaucracy was left almost exclusively to the staff of AACJC and to the grossly understaffed Office of Community Colleges in the U.S. Office of Education. Previous directors of the Office of Community Colleges, Marie Martin and later Helena Howe, were faced with an almost impossible task of communication between the federal bureaucracy and community colleges throughout the United States.

In order to comprehend the enormity of this task, one has only to understand that there is little knowledge and understanding in the fed-

eral bureaucracy and in the executive and legislative branches of government about community colleges. To most elected officials or support staff, community colleges are understood not in terms of the totality of their mission but rather in a narrow, simplistic sense. AACJC and community college personnel must accept responsibility for the education of federal officials and in doing so should advocate full understanding and support of the comprehensive mission of the community college. At the same time AACJC and institutional officials should be prepared to document—through systematic collection, analysis, and organization of data—the specific impacts of community colleges on students, business and industry, the community, state and local agencies, and federal programs and policies in relationship to resources generated through local taxes, state aid, and federal financial aid and entitlement programs. Only through an approach combining elements of advocacy and selective use of data can community colleges expect to educate federal agencies and officials and gain understanding and support for the total mission of the college.

National Indicators for Community Colleges

The executive and legislative branches of government and the various elements of federal bureaucracy that have an impact on community colleges through policy, funding, and regulation must be made and kept aware of the scope and outcomes of the comprehensive institutional mission. Data such as the following (Yarrington, 1981b) are fundamental for their education and understanding if community colleges are to expect continued, and perhaps growing, support:

- A. Number of Community, Junior, and Technical Colleges (Fall, 1980):
 - 1,231 total
 - 1,049 public institutions
 - 182 private institutions
- B. Enrollment in Community, Junior, and Technical Colleges (fall 1980):
 - 4.8 million total students
 - 3.0 million part-time students
 - 1.8 million full-time students
 - 4.6 million students enrolled in public colleges
 - 1.6 million students enrolled in private colleges
 - 4.0 million additional students enrolled in noncredit programs
- C. Percentage of Adults Eighteen Years and Older Enrolled in Community, Junior, or Technical Colleges (1980-81 Academic Year):
 - 7.1 percent of adults eighteen years and older in U.S. population were enrolled in community, junior, or technical colleges in 1980-81.

11.2 million adults eighteen years and older enrolled of a total population of 150 million adult learners

4.8 million regular credit enrollment (fall 1981)

2.4 million enrollment in nonregular semesters, trimesters, summer sessions

4.0 million noncredit programs

D. Percentage of College Student Population in United States Enrolled in Community, Junior, and Technical Colleges (1979):

53% of all first and second year U.S. college students were enrolled in two year institutions (1979)

3,487,214 (53 percent) first and second year students in two-year institutions

3,065,903 (47 percent) first and second year students in four-year institutions

E. Percentage of Credit Students Enrolled in Community, Junior, and Technical Colleges over the Traditional College Ages of 18-21 (1980)

	<i>Full Time</i>	<i>Part Time</i>	<i>Total</i>
17 and below	57,000	12,000	69,000 (2 percent)
18-19	828,000	182,000	1,010,000 (33 percent)
20-21	287,000	163,000	450,000 (15 percent)
			(50 percent)
			(50 percent)
22-24	160,000	256,000	416,000 (13 percent)
25-29	107,000	320,000	427,000 (14 percent)
30-34	60,000	233,000	293,000 (9 percent)
35 and over (est.)	76,000	346,000	422,000 (14 percent)

F. Percentage of Women Students Enrolled for Credit in Community, Junior, and Technical Colleges (1980):

	<i>AACJC</i>		<i>NCES</i>
Men	2,211,112 (47 percent)	Men	1,994,426 (44 percent)
Women	2,511,411 (53 percent)	Women	2,493,502 (56 percent)

G. Black and Hispanic Enrollment in Community, Junior and Technical Colleges (1980):

Black and Hispanic enrollment in two-year colleges in 1980 exceeded their representation in the U.S. population (by percentage of enrollment and percentage of total population).

Blacks were 10 percent and Hispanics less than 5 percent of the U.S. population eighteen years and over in 1980.

<i>Category</i>	<i>Enrollment (Two-Year College)</i>	<i>Percentage of Enrollment</i>
White (non-Hispanic)	3,166,790	(79 percent)
Black (non-Hispanic)	422,616	(11 percent)
Hispanic	226,918	(6 percent)
Asian or Pacific Islander	97,223	(2 percent)
American Indian/Alaskan Native	42,881	(1 percent)
Nonresident Alien	52,038	(1 percent)

H. Average Cost Per Full-Time Credit Student Enrollment in Community, Junior, and Technical Colleges (1980)

Average cost per full-time equivalent (FTE)	/	\$2,048 per FTE
1980 Full-time credit enrollment	/	1,795,422 FTE
1980 Part-time credit enrollment	/	2,794,197 FTE
1980 Education and general expenditures	/	\$6,727,784,000

Volume 1 of the U.S. Office of Education's annual evaluation report for fiscal year 1981 states that the primary goal of postsecondary education programs in the Department of Education is to increase educational opportunity. This statement, with variations, is reflected in the mission statements of most community colleges. However, the data in Table 1 reveal that postsecondary institutions, including community colleges, are not increasing educational opportunity for low-income students measured over the five-year period of 1974-1978. Students from families with incomes over \$25 thousand were three times as likely to enroll in college compared to those from families with incomes under \$10 thousand. This statistic stands out when community colleges give homage to the stated philosophy of increasing educational opportunity.

Note that there is a clear trend toward declining enrollment rates in the \$15 thousand and over family income categories—a trend that is in contrast to the relatively stable enrollment rates for dependent students from lower-income families. However, it should be emphasized that the low-income student enrolls in a ratio of approximately 1:3 with the higher-income student. This is a fact of major significance for community colleges committed to a principle of low or no student tuition. The question must be asked: Do community colleges generate impacts and benefits that closely comply with statements of institutional mission as well as with the stated goals of government agencies such as the U.S. Office of Education?

Community college officials, especially student financial aid officers, are well aware of the various forms of student financial aid programs and the implications for such programs of initiatives currently proposed by the Reagan administration. Table 2 (U.S. Department of Education, 1980a) presents data that show a much lower percentage of community college students receiving federally funded financial assistance than students attending four-year colleges and proprietary schools. Perhaps this can be explained by the lower cost of attending a community college, by commuting from home, or by working part time. However, one must question whether the community colleges have provided sufficient and clear information to state and local constituencies and to the federal government to better serve the financial needs of the

Table 1. Percentage of Eighteen to Twenty-Four-Year-Old Dependent Family Members Enrolled in College, by Sex and Family Income

<i>Family Income</i>	<i>Percentage 18-24 Enrolled</i>				
<i>All Students</i>	<i>1974</i>	<i>1975</i>	<i>1976</i>	<i>1977</i>	<i>1978</i>
\$ 0- 4,999	13.0%	14.3%	14.5%	13.1%	13.1%
5,000- 9,999	14.9	15.6	15.1	15.5	15.1
10,000-14,999	20.7	22.1	21.4	19.3	18.4
15,000-19,999	30.5	29.2	32.8	26.4	23.2
20,000-24,999	43.3	41.4	44.1	38.2	32.5
25,000 +	58.8	58.1	55.2	54.6	48.1
<i>Male</i>					
\$ 0- 4,999	16.2%	16.7%	17.2%	14.4%	16.6%
5,000- 9,999	18.0	17.7	17.1	17.4	17.2
10,000-14,999	22.7	24.9	22.6	20.4	19.6
15,000-19,999	32.2	34.0	33.1	27.2	25.1
20,000-24,999	44.7	43.8	41.8	40.1	32.9
25,000 +	58.1	56.2	52.9	54.0	47.0
<i>Female</i>					
\$ 0- 4,999	10.6%	14.3%	12.6%	12.1%	10.8%
5,000- 9,999	12.4	15.6	13.5	14.0	13.4
10,000-14,999	18.8	22.1	20.4	18.4	17.3
15,000-19,999	28.7	29.2	32.5	25.7	21.7
20,000-24,999	41.6	41.4	46.4	36.3	32.2
25,000 +	59.7	58.1	57.9	55.3	49.6

Source: Calculated from U. S. Bureau of Census, *Census Population Reports*, Series P-20.

students in order to provide increasing educational opportunity. One must also ask whether the community college is affordable in terms of the burden a student must bear. The data in Table 2 show that a high percentage of low-income students enrolled in four-year colleges receive student assistance. This is not true for community colleges. College faculty and administrators need to impress upon the federal government the fact the underenrollment of low-income students in community colleges is a tragic waste of human resources at the regional and national levels.

Improving Federal Assistance Through Impact Analysis

The U.S. Department of Education's *Annual Evaluation Report* (1980b) includes various tables itemizing federal assistance to community colleges under specific federal programs and compares such assistance with that provided to other types of postsecondary institutions. Data are provided for fourteen programs of assistance:

Table 2. Percentage of Undergraduates Enrolled at Least Half-Time Receiving Aid from One or More Student Assistance Programs* (Unduplicated Count) 1978-79

	<i>By Family Income Group</i>	<i>Percent</i>
<i>Dependent</i>	\$ 0-5,999	76%
	6,000-11,999	67
	12,000-17,999	47
	18,000-24,999	27
	25,000-29,999	21
	30,000 or more	8
<i>Independent^b</i>		37
All Students		36
<i>By Institutional Category</i>		
	4-Year Public	36%
	4-Year Private	45
	2-Year Public	26
	2-Year Private	37
	Proprietary	63

*These statistics include only Basic Educational Opportunity Grants, Supplemental Educational Opportunity Grants, National Direct Student Loan, Guaranteed Student Loan, and the College Work-Study financial assistance programs. The State Student Incentives Grant Program is not included.

^bConsidered independent of parental support for student and distribution purposes.

Source: U.S. Department of Education, 1980a.

- Basic Educational Opportunity Grant (BEOG) Programs (Pell Grants)
- Supplemental Educational Opportunity Grants Program
- State Student Incentive Grant Program
- College Work-Study Program
- National Direct Student Loan Program
- Guaranteed Student Loan Program
- Upward Bound Program
- Talent Search Program
- Special Services for Disadvantaged Students
- Developing Institution Program
- Cooperative Education Program
- Community Service Program
- Vocational Programs for Disadvantaged Students
- College Library Resources

Analyses should be made of the actual assistance provided to community colleges through these federal programs in comparison to stated, argued, and defensible needs for assistance to two-year institutions. In addition, research should be undertaken to compare the

amounts and percentages of federal assistance provided to community colleges with that provided to other types of postsecondary institutions. Data from such analyses are essential if community colleges are to argue and lobby for increased support from a position of strength rather than from the more common emotional position of "we must have more" regardless of whether substantive data are available to support such requests in relationship to legislative committees, administrative departments, and regulatory offices. An approach based on hard data could and should have measurable impact upon the federal assistance provided to community colleges.

To generate positive outcomes and impacts with federal agencies in relationship to community college programs, administrators will need to employ techniques other than simplistic analyses concerning various programs of federal assistance. Data should be represented in a clear, concise format free from jargon and equivocal language. There is a greater need today for voluntary cooperation through understanding and shared information than ever before in the history of the community college movement. The autonomy that individual colleges, presidents, boards of trustees, faculty members, and state systems of community colleges have enjoyed for more than three decades is being replaced by a code of self-interest with resultant conflicts and divisiveness. To have a clear and visible impact upon federal agencies responsible for establishment of policies and provision of funds, community colleges will need to present a united position impervious to attack. Exaggerated claims and requests advanced in discussions and "hearings" will be challenged and will create a climate of suspicion with respect to the overall presentation. The positive impact desired by community college staff will become a negative impact with the accompanying danger of loss of influence and financial resources.

The following are specific examples of recent federal legislation including community colleges and agency perceptions of the mission and impacts of these institutions:

The increase in the half cost of BEOG or Pell Grants although the increase falls short of the community college goals of 100 percent support: The failure to reach to 100 percent figures for BEOG and Pell Grants, which would have "increased the opportunity for postsecondary education" was a political compromise among institutions of higher education in accord with their own self-interests. It did not provide maximum benefits to students from low-income families who have decidedly less opportunity to go on to college compared to students from more affluent families. Several questions must be raised: Did the legislators understand the real philosophy of financial need and human resource development for the

benefit of our total society? Did the community college presidents and state board directors support the AACJC presentations and lobby efforts? Was a unified position put forward by college and association personnel based on strong, factual, understandable, and defensible argument?

The increase in the amount of vocational education funds for community colleges: Vocational education funds for community colleges historically have been a subject of debate among agencies at both the federal and state levels. Federal and state agencies concerned with the allocation and use of such funds have been dominated by secondary education philosophies along with a conviction that community colleges were interested only in academic programs or perhaps in a diluted form of vocational education. Attitudes of this type are still prevalent in federal and state agencies today. Such attitudes have been detrimental to the expansion of vocational and technical programs in community colleges. In 1972, a statement was made by a highly placed federal official involved in vocational education, that there were few, if any, community colleges in the United States with acceptable vocational-technical programs and that there should be twenty exemplary vocational-technical centers established as examples for community colleges to study and to emulate. Several questions need to be raised: Are community college boards, presidents, and faculties committed to a comprehensive philosophy of education and therefore to the concept of vocational-technical education? Are vocational programs, when offered, given the same status and financial support as the academic programs? Are the faculty members in vocational programs paid on a basis commensurate with their "skill" and "work" experience just as "academic program" faculty are paid for graduate work and teaching experience? In other words, have community colleges put forward a united position in support of this facet of the education program in state capitals and in Washington, D.C., before the Congress and federal bureaucracy?

Specific examples of accomplishment, partial accomplishment, and failure can be described in relationship to each of the fourteen assistance programs mentioned earlier in the chapter. Additional examples could be described in relationship to the Comprehensive Employment and Training Act (CETA) program, Grants for the Construction of Facilities, and Nursing Education Assistance programs. All of these programs are part of present and past history. The performance of community colleges in terms of success and failure in these programs needs to be dissected and scrutinized in order to more clearly understand the reasons underlying institutional impact, or lack thereof, upon federal policy and funding. On the basis of such scrutiny, community colleges

as a totality must plan for the immediate and long-range future. Community colleges are much different today than in 1970 and will be even more different in 1990 than they are today. What role will the federal government play in student and institutional assistance, and will such assistance be categorical or noncategorical? What is the role of community colleges in influencing and determining federal policies and funding—both philosophically and materially? Community colleges must devote time and resources to the analysis of possible or probable changes in federal policies, funding, and regulations. Perhaps by increasing awareness through analysis of impact, community college officials at the national level (AACJC), state level (coordinating boards), and local level (institutions) will understand the need for proactive strategies, rather than reactive strategies, and the fact that advocacy is fundamental to the impact that institutions have on federal policy and funding.

Emerging Federal Program and Policy Initiatives

The following federal program and policy initiatives and areas of interest are probabilities, possibilities, or eventualities in the near future unless community colleges can agree to preferred actions and convince appropriate agencies that institutional preference is beneficial, not only to staff and students but also to local communities, states, and the nation as a whole.

1. *Campus-based student aid in the form of "block" grants:* Do community college faculty and administrators have an opinion as to what is the best and most equitable form of student and financial aid for the colleges and the students?

2. *College "tax credit":* Will a tax credit or a voucher system affect community college enrollment, the types of students enrolled, and therefore the educational program in totality?

3. *State commissions assigned the responsibility for distribution of smaller amounts of federal funds:* Will such commissions be representative of post-secondary education? Will community colleges be able to compete on equal footing with four-year colleges and the universities for diminishing amounts of federal aid? Would such an action exacerbate the growing trend toward what Riesman (1980) has called in his recent work, *On Higher Education*, the battle of "all against all" for survival purposes?

4. *Constantly increasing tuition at community colleges to compensate for diminished financial support at the local, state, and federal levels:* Will increasing tuition eliminate almost entirely the opportunity for hundreds of thousands of potential students to further their education? Increasing educa-

tional opportunity is a national goal supported by the Department of Education. Is it the responsibility of the federal government to guarantee an entitlement to educational opportunity through the provision of student aid programs? It is the responsibility of community college trustees, administrators, and national organizations to create a climate in Washington, D.C., where such support becomes an actuality, not just a hope.

5. *Emphasis on quality:* Lip service is given to the importance of quality in programs, but do institutional actions match institutional rhetoric? Are community colleges in real danger of drifting into "educational slums" as have so many public schools? Are community colleges turning out illiterate students with the result that the image of the institution will not support requests for assistance locally, statewide, or nationally? Are faculty and administrators too concerned with keeping seats filled to realize that the lack of a quality program is a financial waste to taxpayers at all levels?

6. *Concern with fraud and misuse of federal funds:* The Office of the Inspector General in the Department of Education was established to investigate irresponsibility and possible fraud in the expenditure of federal funds. Claims of ignorance and therefore innocence are an unacceptable excuse for slipshod business procedures in the management of federal funds whether these funds are for student aid, Title III, or miscellaneous programs. Each case of mismanagement is a negative commentary on the image of community colleges in general. The combination of several cases of mismanagement will have an impact, a negative impact, on the image of two-year colleges and their mission in a changing society.

7. *Marketing or salesmanship:* By offering anything and everything, regardless of how the program or course may appear to the public, are community colleges losing support among constituents who may influence individuals and agencies in Washington or in state capitals responsible for establishment of policy and provision of funds? Marketing is a positive approach when used to expand an educational program in response to a justifiable need. Salesmanship is not worthy of community colleges when it is used to enroll students to fill seats to maintain assistance. The image created through the market posture of the institution, or lack thereof, will have a major impact upon policy and funding initiatives put forward by higher education institutions competing for policy and financial support.

8. *New media for teaching and learning:* Are community colleges to be competitive in the use of presently available and soon-to-be available media for learning and teaching? Is the image of the institution, through

intrainstitutional research and development, to be one of creativity and innovation directed toward improvement of the educational program and therefore toward improvement in the benefits for students? Will such an image create an impact in Washington circles that may lead to support for assistance through the National Institute of Education and the Fund for the Improvement of Postsecondary Education? Will community colleges allocate funds for innovation and creativity within their own budgets or will outside sources be expected to provide all the funds or most of the resources for faculty development and educational change?

Many other examples of impact-related federal initiatives could be listed and described. Of looming importance is a legislative brief recently issued by Richard Wilson (1981), vice-president for governmental relations at AACJC, requesting assistance from community colleges concerning a forthcoming legislative proposal. Assurance has been provided by federal officials that information will be submitted to the president related to the impact of the proposal on community colleges. Important questions emerge, however: Is the president sufficiently conversant with the topic to respond? If not, will the topic and related information be referred to a subordinate for response? Will the information be reviewed carefully, or will it be given only token consideration due to a lack of time and interest?

The legislative brief issued through AACJC reads as follows:

Attention: Student Financial Aid Officers

The Department of Education has submitted a preliminary proposal to the Office of Management and Budget (OMB) at the White House that would consolidate three campus-based student financial aid programs into a block grant. The three affected programs are: the College Work-Study program (CWS), the National Direct Student Loan program (NDSL), and the Supplemental Educational Opportunity Grant program (SEOG). The department expects to submit a final proposal to Congress in January and has asked the higher education community to help shape the legislation. The Office of Governmental Relations at AACJC needs your assistance in determining the impact of this proposal on community colleges and their students. We would appreciate your comments on the following questions. Please send reactions to Richard E. Wilson, vice-president for governmental relations at AACJC.

1. Should institutions have a single pot of money to use at their discretion?

2. Should all institutions be required to participate in all three components, if eligible?
3. Should the department encourage institutional participation in the self-help components?
4. Should the department be concerned about institutions putting all their funding into one program?
5. Should new schools be accepted at a time of declining funding?
6. If funds are reduced, should institutions shoulder the burden equally, regardless of enrollment or need patterns?
7. Should the secretary have discretion over a minimal percentage of the funds? If so, to what end should this funding be directed?
8. What funding protection, if any, should be given to institutions? State allotments, conditional guarantees, or fair share?
9. Should institutions be required to match any or all of the programs? Which ones?
10. If matches are desirable, should they be matches as in NDSL (when it goes into the fund) or as in CWS (when it goes to the student)?
11. Should the NDSL default rate be the sole criterion for determining if an institution's NDSL program should be limited?
12. Should cancellation benefits for NDSL be reduced or eliminated?
13. Should the institutional year/calendar year IY-CY separation be maintained?
14. Should the administrative allowance reflect administrative costs?
15. Has the maintenance of effort (MOE) been a useful concept?
16. Are there benefits to having subprograms within a program, such as JLD (Job Location and Development) and CSL (Community Service Learning) within CWS (College Work-Study)?
17. Have the carry-over, carry-back features of CWS been a significant benefit to the majority of participating institutions? Would the flexibility afforded by a consolidated program be of greater benefit?

Wilson's brief is a good example of communication and of how AACJC and the community colleges can work together to improve

understanding of federal initiatives and, through unified action, shape these initiatives to meet current and future needs of two-year colleges. Neither organization can function effectively without the full knowledge, understanding and support of the other. Ignorance or arrogance on the part of community college boards, presidents, faculty members, AACJC staff, or a state chancellor, either by accident or design, is unconscionable. If Riesman is correct in his prediction of a "battle of all against all" within higher education, there can be no room for self-interest and self-aggrandizement within and among parties to the community college enterprise. Dual forces of declining resources and pressing federal initiatives present a compelling mandate to community college administrators and agency heads to provide enlightened leadership for the immediate and long-range future of two-year colleges. Examination and understanding of the impact of federal policies and programs on community colleges, combined with clear demonstration of the benefits of college programs to the community, the state, and the nation will prevent the federal government—the Congress, the administration, and the Department of Education—from imposing arbitrary controls on community colleges.

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Job satisfaction among faculty and staff is essential if a community college is to maximize its impact in relationship to internal and external constituencies. Sound management is a requisite for job satisfaction. Community colleges need to make improvements in management in order to maximize impact.

Organizing Management to Maximize Community College Impact

Alfons Van Wijk

Today the idea that the faculty and staff of a college are its single most important resource has gained wide acceptance. If a college is to achieve its goals and generate maximum impact in relationship to multiple constituencies, a strong index of job satisfaction is essential. Faculty and staff who lack motivation and commitment clearly will not be able to contribute in a meaningful way to the educational development of students, the establishment of new linkages with business and industry, and the provision of economic and social benefits to the community through teaching and service. Job satisfaction is a determinant of impact. It is the single most important factor guiding decisions by the individual with respect to the commitment of energy and resources to the achievement of institutional goals.

In this chapter impact is examined in terms of its status as a product of faculty and staff job satisfaction. Incentives are described that motivate faculty and staff to expand or contract efforts toward goal

achievement, and a relationship is established between job satisfaction and impact in specific categories of activity. The chapter concludes with an examination of causative factors related to job satisfaction and presents a series of recommendations that can be implemented in community colleges to improve management and thereby to maximize impact through improvement of faculty and staff job satisfaction.

Job Satisfaction and Impact

Community colleges presumably exist to meet student needs and those of organizations and groups in the community at large. The concept of need implies some form of impact that the college will discharge in relationship to identified individuals, groups, and organizations. Impact is a driving force within community college education because it is a yardstick by which need satisfaction, or the lack thereof, can be measured. For impact to occur—that is, the needs of individuals, groups, and organizations served by the college are satisfied—faculty and staff must achieve satisfaction through performance. Satisfaction is an important influence on individual behavior, and it is a major determinant of impact. Attempts to maximize or improve institutional impact in relationship to students, business and industry, community groups, and other constituencies without considering behavioral effects of the existing reward system on proposed changes in the reward system can result in outcomes that are either unintended or undesirable.

Community college faculty and staff base their actions largely on their own self-interest. An individual's self-interested behavior is governed by personal needs and the constraints posed by the college. Faculty and staff will be able to satisfy personal needs subject to the limits posed by resources available and policies imposed in the work environment. For a faculty member, for example, constraints include professional assignments, the resources made available, and the reward and penalty structure. Professional assignments include teaching responsibilities, committee work, advising students, and other responsibilities related to course, program, and institutional objectives. The resources available include such items as equipment and supplies, space, laboratory and computer support, and library materials. The reward and penalty structure includes the approval and disapproval of colleagues, the availability of resources to be used by faculty members to achieve personal needs, and monetary and fringe benefit compensation. In a general sense, penalties and rewards connect the performance of the individual with the achievement of personal objectives.

Among the factors that enter into job satisfaction for community

college faculty and staff are the interests of administrators who have authority to allocate resources, to determine rewards and penalties, and to assign responsibilities. All these factors combine to influence the degree of satisfaction, including whether or not they relate to the personal needs of the individual. For example, job satisfaction achieved through enhancement of student outcomes will be stronger when promotion and salary decisions are made in accord with published evaluation criteria that closely follow indicators of effective teaching. If administrators in charge of salary and promotion criteria have a strong interest in community development, job satisfaction achieved by faculty and staff through involvement in the community will be correspondingly strong. As another example, since each faculty member contributes in only a small way to student outcomes in the world of work and further education, and since these outcomes are difficult and costly to measure, a faculty member does not ordinarily achieve satisfaction through enhancement of the overall impact of the institution on students. Job satisfaction achieved by faculty and staff in relationship to institutional impact relates to only particular aspects of this impact and does so selectively.

Specific elements of the relationship between job satisfaction and impact can be examined across a wide spectrum of institutional activities. Table 1 presents four dimensions of institutional activity in which varying levels of faculty and staff job satisfaction can have a positive or negative impact on institutional performance. A brief review of the activity indicators in each dimension and associated indicators of faculty and staff job satisfaction and dissatisfaction will show the range and degree of change that job satisfaction can provide in relationship to impact. In the student development dimension, for example, measures of attrition, academic performance, success in employment and continuing education, and perceptions of educational quality will vary in accord with the degree of faculty and staff job satisfaction. Attrition can be expected to rise, academic performance to decline, and further education to fall below an acceptable standard as faculty and staff show low job satisfaction through reduced commitment to instructional innovation. Similar analyses can be performed for each of the remaining dimensions with job satisfaction viewed as a predictor or determinant of impact.

Research on Job Satisfaction

Because job satisfaction may have a distinctive relationship to impact—a relationship that can be examined in terms of institutional performance—what are the factors that contribute to or diminish faculty

Table 1. Impacts Associated with Faculty and Staff Job Satisfaction and Dissatisfaction in Selected Areas of Activity

<i>Activity</i>	<i>Faculty and Staff Job Satisfaction/Dissatisfaction</i>	<i>Impact</i>
Student Development • teaching • counseling/advisement • instructional support service organization • student placement • tutoring/individual assistance	Faculty and staff satisfaction/dissatisfaction with job and related effects of involvement/noninvolvement in instructional innovation Faculty and staff provision of effective/ineffective counseling, placement, and tutorial services to students as a function of job satisfaction	Increasing/decreasing rates of student attrition Positive/negative student academic performance outcomes Positive/negative student performance outcomes in employment and further education Positive/negative student perceptions of "quality" of education
Business and Industrial Liaison • program development • program review and modification • liaison/communication • professional development • development and retraining programs for current employees	Faculty and staff satisfaction/dissatisfaction with job and efforts undertaken/not undertaken to explore and develop programs with business and industry Faculty and staff maintenance/nonmaintenance of continuing communications with business and industry vis à vis program needs and improvement Faculty and staff interest/noninterest in professional development opportunities with industry as a function of job satisfaction/dissatisfaction	Functional/nonfunctional relationships with business and industry manifested in cooperative programs, in-plant education, and joint participation in programmatic decision Up-to-date/out-of-date career and technical programs due to frequent/infrequent faculty communication with business and industry Faculty and staff participation in professional development programs with resulting benefits for improvement in performance

Community Development

- services to community agencies
- assessment of community education needs
- outreach to community groups through provision of instruction and educational services in off-campus locations

Faculty and staff satisfaction/dissatisfaction with job and involvement/noninvolvement in assessment activities designed to identify community educational needs

Faculty and staff involvement/noninvolvement in community activities with benefits for the college in recruitment, admissions, community support of college programs

Faculty and staff service/nonservice to community agencies

Involvement/noninvolvement of college in community affairs with resulting impact on recruitment, enrollment, and community support of college programs

Relevance/nonrelevance of college programs and services to community needs

State and Federal Relations

- planning and assessment activities to identify emerging state and federal policies, revenue trends, and funding priorities

Faculty and staff satisfaction/dissatisfaction with job and involvement/noninvolvement in institutional activities related to assessment of state and federal trends in policy development, programs, and funding priorities

Superior/inferior "positioning" of the college vis á vis information about federal and state trends related to community college education due to involvement/noninvolvement of college faculty and staff in external affairs

and staff job satisfaction? Why is job satisfaction an important element in individual and institutional performance? Along what dimensions can job satisfaction be measured, and what changes can be made in institutional management to improve job satisfaction and thereby to improve institutional performance?

For the past five years the Higher Education Management Institute (HEMI) of the American Council on Education has been working with approximately 200 colleges and universities throughout the United States and Canada on the improvement of incentives faced by faculty and staff through management development and training. As an integral part of this effort, the institute has surveyed over 75,00 board members, presidents, administrators, faculty, staff and students to determine their attitudes and perceptions of management at their institutions. These surveys have resulted in the development of a set of relatively independent and reliable factors for examination of incentives and job satisfaction among faculty and staff. The goal of survey data is to improve institutional performance, that is, impact, through management development and training directed toward the enhancement of job satisfaction.

The job satisfaction factor in the needs assessment survey assesses the satisfaction of faculty and staff with their position, salary, employee benefits, opportunities for personal growth, and career advancement. Job satisfaction scores increase directly in accord with increases in responsibility at ascending levels in the organizational hierarchy. On a Likert-type scale that ranges from 1 to 8, where 1 is the lowest score and 8 is the highest score, presidents score highest (6.6) on job satisfaction, followed by vice-presidents, deans and directors (5.4), academic department and division heads (5.1), faculty (4.8), and college staff (4.8). Table 2 below provides a comparison of job satisfaction scores among different types of institutions for five major groups:

Note that job satisfaction scores for respondents in community colleges are higher for every group than those recorded respondents in public and private four-year institutions.

Table 2. Job Satisfaction in Higher Education

	<i>All institutions</i>	<i>Community Colleges</i>	<i>Public universities</i>	<i>Private universities</i>
Staff	4.8	4.8	4.7	5.1
Faculty	4.8	5.0	4.5	4.8
Academic Department Heads	5.1	5.2	5.1	4.8
Administrators	5.4	5.6	5.2	5.1
Presidents	6.6	6.9	6.5	6.5

In addition to identifying factors valid for examination of job satisfaction and assessment of training and development needs of community college faculty and staff, subsequent analyses were performed to identify correlations between factors. Factors identified as having a significant correlation with faculty job satisfaction are presented here in order of significance. A brief description of each of these factors follows, along with supportive findings of other researchers.

Perceived Reputation of the Institution. This factor relates to faculty and staff perceptions of the overall reputation of the institution in accord with job satisfaction. Reputation is a function of internal and external perceptions of program quality, staff performance and credentials, and the capacity of the institution to produce desired outcomes. The HEMI data base shows that board members and presidents of community colleges (6.3) score these questions considerably higher than college faculty and staff: vice-presidents/deans/directors (5.4), academic department heads (5.4), faculty (5.1), staff (5.3), and students (5.2). It is surprising to note a strong relationship between perceived reputation of the institution and faculty job satisfaction, for few research studies identify institutional reputation as an important factor in job satisfaction. Institutional reputation, however, may relate to the concept of organizational saga or that of a special sense of mission, introduced by Clark (1970). In his study of Antioch College, Reed College, and Swarthmore College, Clark found that differences in job satisfaction and organizational effectiveness in higher education institutions are, in part, historically based. Organizational saga was found to be a causal criterion for variance in student career development in colleges and universities (Cameron, 1978).

Quality and Frequency of Performance Feedback. This factor assesses faculty satisfaction with the frequency and methods of feedback on their performance. Satisfaction with performance feedback is scored relatively low in the HEMI data base by all community college respondents, ranging from presidents (5.1) to faculty (4.5) and staff (4.2). Although performance feedback has been the subject of limited attention by faculty and administrators in community colleges, it can contribute significantly to faculty job satisfaction as evidenced in a study by May (1978). He examined the quality and frequency of performance feedback using Herzberg's theory of job satisfaction. Lack of performance feedback and recognition were found to be among the most highly ranked dissatisfiers indicated by faculty. Dissatisfaction with performance feedback is a major force in job satisfaction among faculty in colleges and universities.

Perceived Influence of Faculty on Educational Activities. This factor assesses the perceptions community college faculty have of their potential and actual influence on educational activities. The HEMI data base shows that there is a discrepancy between faculty perceptions of their influence (4.6) and those of presidents (5.8). Academic department heads and other community college administrators have perceptions of faculty influence that are more closely aligned with those of the faculty (4.7). Numerous studies have supported the thesis that when faculty and staff are involved in making decisions that affect them, the institution is more productive. The Carnegie Commission on Higher Education (1972) found that participation by faculty and staff in the decision-making process contributes significantly to improved effectiveness in colleges and universities. In a study of Florida community college, Scigliano (1971) found that colleges that encourage faculty participation in decision making are more productive. Productivity, in this context, is defined in terms of efficiency, production of graduates, and adaptation to social and economic needs in comparison with similar institutions.

Institutional Concern for Education Excellence and Efficient Use of Financial Resources. This factor relates to faculty perceptions of the extent to which executive administration displays concern for educational excellence and financial efficiency. Factor analysis reveals that community college faculty and staff do not differentiate between concern for financial efficiency and concern for educational excellence. They do, however, show differences in their ratings of administration on this factor. Ratings range from 5.0 for faculty to 6.8 for presidents and suggest that, in the view of community college faculty, there is room for improvement in institutional standards for educational excellence and financial efficiency. Since little research has been conducted on the question of management standards for excellence and efficiency, it is difficult to establish a conclusive relationship with job satisfaction. If administrators are to improve job satisfaction and performance of faculty in relationship to institutional goals, such research would be valuable.

Institutional Responsiveness to the Environment. This factor assesses faculty and staff perceptions of the extent to which the college is aware of the education-related needs of the community and the extent to which nontraditional programs and instructional techniques are being used to meet these needs. Community college scores for this factor range from 6.3 for board members to 5.2 for faculty. Cameron (1978) discovered a high correlation between institutional responsiveness to the environment and indicators of student educational satisfaction, student

academic development, student career development, faculty and administrator job satisfaction, and the institution's ability to acquire resources. In a related study, Bowers (1976) also discovered a strong correlation between faculty job satisfaction and institutional responsiveness to the external environment. Data from these and other studies provide conclusive evidence in support of a relationship between institutional responsiveness to the external environment and faculty job satisfaction.

Suggestions for Action

If the five factors just described have a definite influence on faculty job satisfaction—and the data and supporting research indicate that they do—what can community college administrators do to improve the incentives facing faculty and thereby improve the impact of the institution in relationship to its multiple constituencies?

One step that can be taken is to improve the reputation of the institution. In the short run, a more effective public relations program on campus, as well as off campus, may help. But in the long run, the only way to improve the reputation of the institution is to improve the quality of programs, faculty, and students. Faculty and staff achieve satisfaction and strong working relationships in the context of high-quality programs. Programs can be improved only through careful evaluation on a regular basis. Evaluation efforts need to be tied to planning and budgeting processes in order to achieve effective implementation of program improvements. In many colleges this will require special efforts to develop appropriate evaluation techniques and to train department heads and faculty in the use of these techniques.

Program improvement can also be accomplished through definition of program objectives and ongoing development of curricula and staff in response to changing needs of students and the labor market. Recruitment and selection of new faculty can result in direct improvement in program quality as faculty with skills related to the market inject new vitality into educational programs. The recruitment of faculty, of course, is dependent on the reputation of the institution and its academic programs. Weak programs do not attract strong faculty; since movement of faculty between positions and institutions has slowed considerably in recent years, renewed efforts will need to be undertaken with current staff to improve instructional and program quality. Higher education is one of the few areas in which professionals are hired for positions for which they have not received any specific training. Hospitals would not think of hiring physicians who had not obtained

practical experience as part of their training. Teaching ability is a skill that can be learned or improved through training.

Improvement in the quality of students follows naturally from improvement of programs and faculty. If the college achieves a reputation for superb programs that meet real and current needs and for faculty that demonstrate an unusual effectiveness in teaching, it will attract high quality students who, in turn, reinforce the quality of the programs. Graduates communicate the reputation of the college and its programs to employers, citizens, and elected officials through their occupational success and satisfaction with their education. High-quality students achieving demonstrated success in the world of work and further education provide important incentives to faculty for improvement of teaching because they provide direct evidence of the linkage between learning and social and economic mobility.

If community college administrators are interested in improving impact through improved faculty job satisfaction, they will need to improve the quality of performance feedback provided to faculty. On a formal basis, faculty receive performance feedback through periodic performance evaluations. The quality of these evaluations is subject to question. Administrators in many colleges should discard existing methods of performance evaluation because they are ineffective and contribute to low faculty job satisfaction. New or improved evaluation procedures are needed in community colleges. Academic department heads should monitor faculty performance on a regular basis — not just once a year — and should provide frequent and informal feedback to faculty. Faculty should be trained to participate in performance evaluation discussions to ensure that their expectations of the process are the same as those of administrators. Performance feedback is crucial if community colleges are to achieve their goals. It heightens faculty awareness of student and institutional outcomes, thereby leading to improved faculty job satisfaction and enhancement of the impact of an institution on its constituencies.

An important step that community colleges can take to improve faculty job satisfaction is to increase the influence of faculty on educational activities. Faculty involvement in decision making should expand at the department level. Faculty membership on institution-wide committees that seldom have direct impact on day-to-day activities is more likely to detract from job satisfaction than add to it. Academic department heads need to be convinced that their leadership style is probably the single most important determinant of faculty job satisfaction. They need to be trained for department management positions so that they

can recognize which leadership style is most effective in a given situation and the conditions under which participation in decision making can lead to improvement in faculty job satisfaction.

The relationship between standards for educational excellence and financial efficiency and faculty job satisfaction needs to be better understood. Available research indicates that administrators should not hesitate to demand the best. The motivation theories of Maslow (1962) and Herzberg (1966) provide support for the thesis that high levels of achievement lead to high job satisfaction. Mediocre achievement, resulting from faculty adherence to marginal standards for educational excellence and financial efficiency, leads to mediocre job satisfaction. The result for community colleges interested in demonstrating the effectiveness of their programs and services in an increasingly competitive educational market is a marginal impact on student and community constituencies generated by a tired and disinterested faculty. Academic department heads should be trained to set specific, realistic, and measurable objectives that will lead to high levels of achievement. They should monitor performance and provide feedback to faculty to make sure that high levels of achievement are attained. Strict standards for financial performance, budget control, and purchasing should be set and enforced. Contrary to prevailing thought, the effective use of available resources will contribute to faculty job satisfaction.

The incentives implicit in advancing institutional impact through improvement in the responsiveness of the institution to changing needs in the service region should be the subject of increasing attention by community college faculty and administrators. The institution should design a system to monitor changing needs of students and the community on an annual and systematic basis. Research of this type contributes not only to faculty job satisfaction but to institutional survival as well. Questions to be asked include: How many new programs have been launched at the college in the past five years? How many costly or ineffective programs have been eliminated in the same period of time? Are teaching methods in use at the institution today with changing student constituencies the same as those in use ten years ago? What innovative instructional techniques are projected for use in the college in the next year, in ten years, and so on? What other instructional techniques might be appropriate for application to today's programs and students? A product of improved institutional responsiveness to student and community needs is increased pressure on college faculty and staff to implement new techniques to thereby maximize the impact of programs and services of institutional constituencies.

Conclusion

When community college faculty and administrators plan for the future, they usually think of enrollment projections, programs and services to be offered, and staff to be hired or let go. Seldom is the improvement of faculty and staff job satisfaction a topic for top management in a community college.

Incentives for faculty performance and job satisfaction are present in the operations of every college. An understanding of the relationship of incentives to faculty job satisfaction is crucial to improvement of the impact of a community college in relationship to its constituencies. The lack of attention to job satisfaction inevitably will result in unintended and often undesirable outcomes as satisfaction declines and institutional impact wanes in the face of mounting faculty and staff pressure for a better work environment.

Five factors have been examined that have an impact on faculty job satisfaction. Each factor can be managed by college administrators—that is, administrators can significantly influence factors that influence faculty job satisfaction. Available data show that faculty job satisfaction can be measured, key factors influencing job satisfaction can be managed, faculty job satisfaction techniques can be implemented by academic department heads independent of the rest of the college, improvement in management can lead to higher faculty job satisfaction, and impact can be enhanced through improvement in job satisfaction.

Programs to improve faculty job satisfaction are a critical ingredient in faculty and administrative efforts to improve the impact of community college education. The effect of job satisfaction on impact deserves more study than it has received to date. Unless this problem is given more attention in the future, community college faculty and administrators will have developed more and better devices to improve productivity in the face of declining resources, but will not have increased the level of job satisfaction and may have unwittingly diminished the impact of the institution on its constituencies.

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Community colleges can ill afford to function in isolation from the political and economic base provided by external constituencies. Impact assessment strategies are needed to guide resource allocation and generation decisions in pursuit of selective goals with constituencies.

Improving College Resources Through Impact Assessment

Richard L. Alfred

Assessment of the benefits of college programs and services in return for investment in education is a subject of mounting interest among community college faculty and administrators. The challenge is, in part, one of examining the impact of college on external constituencies while coping with a decline in resources. In the 1960s and 1970s, studies of impact were rare as constantly increasing resources focused the attention of administrators on accommodation of growth. Many, if not most administrators, during this period were conditioned to evaluate institutional performance and resources in terms of growth. Faced with a prospect of decline in the 1980s, the tendency (among administrators) has been to initiate measures to stem the decline and, as this trend persists, to employ proactive strategies to improve the flow of resources. Given this condition, impact assessment is likely to become a prominent feature of community college management in the 1980s.

The concept of impact—as described in my preface to this volume—can be examined through consideration of six questions: What

are the effects of two-year college degree and nondegree programs on individual earnings, employment, and social development? What are the cost benefits to business and industry of labor development programs offered in community colleges? Do states and localities experience direct economic benefits as a result of community college programs? What are the social and economic benefits to agencies of government—national, state, and local—associated with investment in community college education? Does community college education improve the quality of life through absorption of unemployed and indigent groups in the population? What is the relationship of community college programs to economic development in a recessionary economy? In addressing these questions, the authors in this sourcebook have presented a common theme relative to impact assessment—namely, that the major issue surrounding the study of impact is the absence of tested, practical models to guide management practices, research processes, and information gathering techniques. A second theme is the need for an organizational strategy to guide the use of impact data with internal and external constituencies depending on the needs and characteristics of the institution engaged in such inquiry.

This chapter presents a model for the assessment of impact based on concepts presented in the preceding chapters. The chapter is designed to demonstrate the utility of impact data in resource decisions and includes a statement of the variables that should be examined in impact studies, as well as the uses of data forthcoming through research.

Model for Impact Assessment

The fundamental problem that must be addressed through impact assessment is the relationship between resources and benefits in community college education. Specifically, what are the benefits of two-year college programs, the costs associated with such benefits, and the implications of cost benefit information for resource allocation and generation? As part of this design, the focus of assessment can be on three dimensions of impact in the college environment: (1) strategic conditions that facilitate or constrain institutional development—demographic transition, condition of the economy, public attitudes toward education; (2) outcomes produced by the college in relationship to external constituencies—social mobility, economic development, labor development and training; (3) resource allocation decisions to improve the position of the college with external constituencies—program enrichment, elimination of nonproductive programs and services, establish-

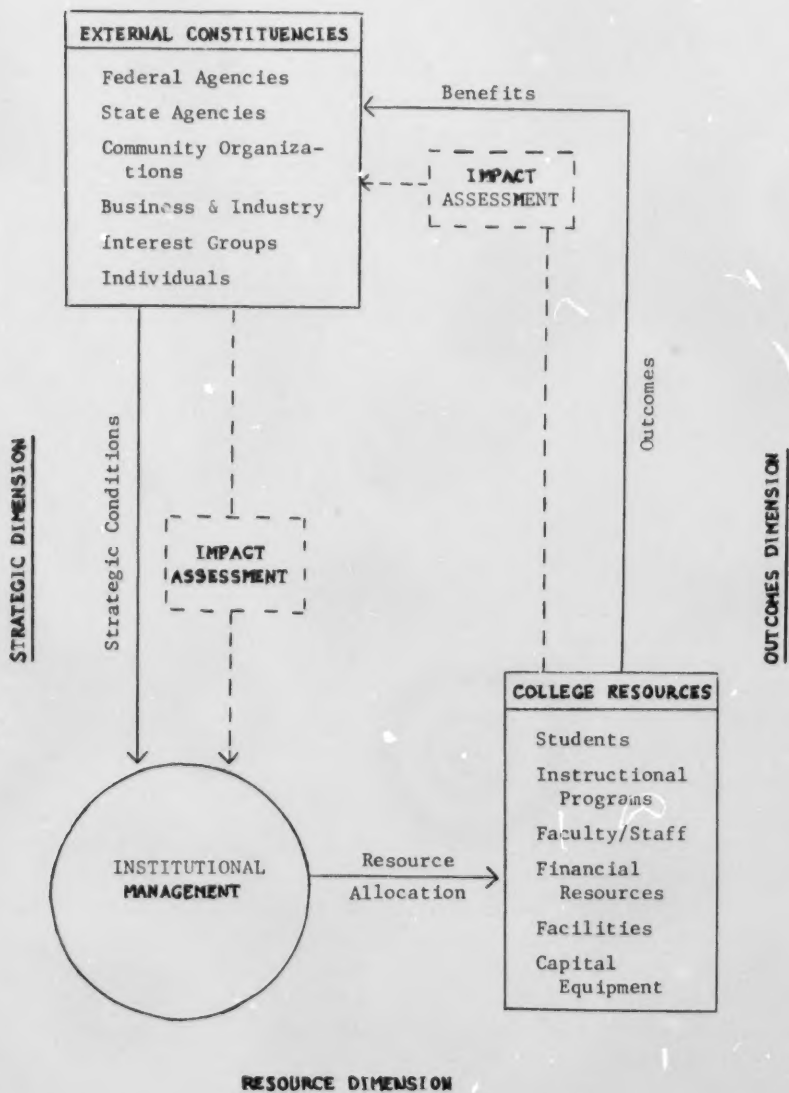
ment of new programs. Assessment of impact in each dimension is important if faculty and administrators are to improve the benefits of community college programs and thereby improve the resource base of the institution through expanded impact with funding sources.

A three-dimensional model for impact assessment in community colleges is presented in Figure 1. In this model, assessment takes the form of research and analysis on strategic conditions and outcomes for the purpose of examining different forms of impact created or experienced by the college in relationship to external constituencies. These two dimensions favorably or unfavorably have an impact on a third dimension—the resource dimension, which involves decisions made by the college in the generation and allocation of resources based on projected conditions.

Understanding of the *strategic conditions* that influence the allocation of resources to the college is a key element in understanding the potential of the institution to produce useful outcomes in relationship to constituencies. Clearly an institution undergoing reduction in resources due to changing federal policies, economic recession, pressure for tax relief, or declining public interest in higher education will experience a residual reduction in its capacity to generate outcomes. Data showing the impact of strategic conditions on institutional resources may significantly facilitate understanding of the role of impact assessment in community college management.

Assessment in the *outcomes* dimension involves the measurement of impacts created by the college in relationship to identified constituencies such as students, business and industry, community organizations, and state and federal agencies. The information in Figure 1 is not sufficiently detailed to provide a description of the full range of outcomes produced by community colleges. However, data descriptive of outcomes can be used to demonstrate the effect of resource allocation decisions in a wide sphere of activities. What, for example, is the return on investment in education for community college graduates? What are the social and economic benefits offset to the community through college programs and services? What are the cost benefits to business and industry of labor force training programs provided by community colleges? What is the impact of community college programs on economic development and diversification programs in states and localities? What are the direct and indirect benefits to the federal government of community college programs for training the unemployed and underemployed? It is important to consider the outcomes produced by college programs in resource decisions. Resources are finite, and priorities must be

Figure 1. Impact Assessment Model



developed based on logical criteria as to which outcomes and which constituencies should be accorded major, minor, or no attention by the institution. Poor management in the area of resource allocation can damage the resource base of a college and thereby hamper its ability to serve constituencies.

The model presented in Figure 1, dividing impact into two dimensions, can provide a useful framework for analysis of impact in the day-to-day context of college operations. In the pages that follow, criteria for the assessment of impact in strategic and outcome dimensions are presented and questions are posed that require answers if community college are to allocate resources more effectively and improve their position with funding sources.

Assessment of Strategic Conditions

In order to plan the allocation of resources, faculty and administrators need concise information on factors in the environment that shape the flow of resources to the college. Two-year colleges must have financial support to generate impact. The flow of resources to the college from external constituencies will meet, exceed, or fall short of the level of support necessary to forge positive impacts. As such, strategic conditions—conditions that influence either negatively or positively the flow of resources to the college—are a form of impact experienced by the college in contrast to one that is generated through its programs and services. Changing strategic conditions can translate into changing financial support if such conditions are not carefully analyzed and anticipated. Faculty and administrators need to devote time and energy to the identification of strategic conditions if the college is to develop a resource base sufficient for the generation of favorable outcomes with external constituencies.

There is a data base common to all institutions involved in assessment of strategic conditions. Table 1 presents five categories of strategic conditions that have an impact on the resource base of the community college. These categories depict a range of indicators that link external conditions with processes of resource allocation and generation. Information related to strategic conditions can be useful to faculty and administrators in the following types of decisions:

- *mission definition*: expansion or contraction of the institutional mission in relationship to emerging conditions
- *Definition of clientele*: modification of enrollment and retention strategies to meet the needs of new learners entering the college

Table 1. Strategic Conditions in the Community College

<i>Strategic Conditions</i>	<i>Impact on College</i>
<i>Demographic</i>	
Change in the size and composition of the regional population	Change in enrollment size and composition of the college with resulting implications for change in: (1) the program/service mix to accommodate new learners and (2) the resource base to finance new or expanded programs and services to meet the educational needs of "new" learners
Change in population size through replacement (or nonreplacement) of "traditional" groups by "new" groups	
Change in population composition through increasing representation of subgroups classified according to age, race, ethnicity, sex, occupational status, income, level of education, employment status	
<i>Economic</i>	
General condition of the economy reflected in such indicators as gross national product, prime rate, rate of unemployment, rate of inflation, industrial growth and development	Change in the revenue and expenditure patterns of the college caused ¹ by one or more of the following conditions: — change in local tax revenues — change in the pattern of dependence on state agencies as a revenue source — change in the pattern of federal support for higher education — change in the proportion of the institutional budget available for discretionary purposes due to increasing fixed costs
Economic development and diversification of the college service region and state	
Change (or projected change) in service region economy from a manufacturing economy to a service economy	
Change in labor market needs reflected in business and industrial projections of replacement positions and new hirings in specific occupational categories	
Rate of inflation on equipment, supplies, and labor costs in the service region and state	
Projected growth and development of regional business and industry in relationship to plant closings, attraction of new industry, layoff of employees	
Federal policies for spending reflected in budget appropriations for defense, social programs, health, education, environment	
National, state, and local initiatives for tax relief with resulting implications for public support of higher education	
Projected trends in collective bargaining and cost estimates in relationship to future collective bargaining agreements	
<i>Political</i>	
Emerging federal policies with a direct impact on community colleges (entitlement grants and financial aid)	Change in the resource base of the college due to increasing competition for public monies and centralization of decision making for programs and resources with state federal agencies
Federal initiatives, programs and policies with an indirect impact on community colleges (proposed tax policies, postage regulations, regulation/deregulation of energy costs)	

Table 1. Strategic Conditions in the Community College (continued)

<i>Strategic Conditions</i>	<i>Impact on College</i>
<i>Political (continued)</i>	
Emerging patterns of state coordination and financial support of public higher education Patterns of competition between higher education institutions and human services organizations (mental health, hospitals, courts, correctional institutions) for limited public resources Emerging relationships with business and industry and trends in private sector support for community college programs and services	
<i>Social</i>	
Status of higher education in the eyes of the public as an organization worthy of support in comparison to other types of not-for-profit organizations Perception of community college education as an avenue for social and economic mobility among subgroups in the general population Perception of the community college as an organization for community renewal through labor development, absorption of the unemployed, community development	Change in the pattern of local support for community college education due to rising or declining perceptions of the capacity of the college to provide leadership for social and economic mobility, economic development, social change
<i>Technological</i>	
Trends in energy development resulting from investment in new energy sources, fossil fuels, and energy conservation techniques Change in educational delivery systems involving advances in computer technology, telecommunications, media systems Natural resource development in the college service region (energy, minerals, forestry) resulting in financial benefits to the college Changing technology in information production and retrieval systems Technological advances that change the composition of the labor force through labor-saving techniques (robotics, advanced computer systems, telecommunications) Advances in medicine and biological research that improve life expectancy and health Changing technology leading to the creation of new labor development fields and industrial specializations Advances in the science of management, business technology, and business communications	Change in the program/service mix of the college resulting from changing labor market needs. Secondary changes in the expenditure and revenue patterns of the college due to expanding requirements for new technology and the advent of profit-based organizations as a source of financial support

- *Program/service mix*: change in the distribution and mix of services and programs to serve the educational needs of new learners within the limits of fiscal resources
- *Resource allocation*: change in the allocation of resources to programs and services based on change in demographic, economic, political, social, or technological conditions in the college service region
- *Resource generation*: development of new strategies for resource generation based on the amount of resources available to the college from funding sources.

Identifying and monitoring the strategic conditions that have an impact on the resource base of the college is critical to the effective allocation of resources to programs and services. Data descriptive of strategic conditions can be used by management to predict the flow of resources and thereby to improve the benefits and outcomes of community college education in relationship to important constituencies.

Assessment of Outcomes

It is not enough for a community college to commit itself to assessment of strategic conditions as the only source of data for resource allocation and generation decisions. Assessment must also include examination of the impacts produced by college programs and services in relationship to identified constituencies. Impact, in this perspective, is a function of the outcomes and benefits generated by college programs in identified areas of activity with external constituencies.

The objective of outcomes assessment is to provide a strategy for the allocation of resources based on measures of impact and cost. Outcomes and cost measures form the essential nucleus for a question that must be answered by community colleges if they are to improve the impacts they generate with external constituencies: What types of constituencies experience what types of benefits at what cost? The three elements of this question form the components of the strategy for assessment of outcomes.

The first component of the strategy is outcomes. With the help of faculty and staff, measures can be identified to document the outcomes of college programs and services. To illustrate, the impact of programs on students can be assessed through examination of outcomes following graduation in relationship to such variables as relationship of job to curriculum, personal income, job mobility, pattern of promotions,

supervisory responsibility, further education, honors or awards recognizing superior performance, and employer evaluation of performance. The distribution of outcomes measures for various constituencies is presented below.

Constituency: State and Federal Agencies

Outcome Measures:

- Number of community, junior, and technical colleges
 - Public
 - Private
- Enrollment in community, junior, and technical colleges
 - Part-time
 - Full-time
 - Total
- Percentage of adults eighteen years and older enrolled in community, junior, and technical colleges
- Percentage of college age population (eighteen to twenty-two years) enrolled in community, junior, and technical colleges
- Percentage of women eighteen years and older enrolled in community, junior, and technical colleges
- Percentage of black and Hispanic enrollment in community, junior, and technical colleges
- Average cost per full-time equivalent student in two-year colleges
- Number and percentage of students receiving state and federal financial aid in two-year colleges
- Percentage of citizens with poverty level income enrolled in two-year colleges
- Percentage of unemployed adults eighteen years and older enrolled in two-year colleges
- Number of two-year colleges operating programs for special population subgroups (exoffenders, returning housewives)
- Total market value of two-year college facilities
- Total expenditures by two-year colleges during fiscal year period

Constituency: Community Groups and Organizations

Outcome Measures:

- Economic impact of college programs and services on the community
 - Dollars spent for salaries
 - Expenditures for equipment and supplies
 - Expenditures by college personnel for living expenses
 - Discretionary purchases by college personnel
 - State and federal monies brought into the community by the college
- Indirect Economic Impact of college programs and services on the community
 - Social and economic mobility of college graduates
 - Reduction in unemployment
 - Attraction of business and industry into service region
- Social impact of college programs and services on the community
 - Rate of community use of college facilities
 - Community perceptions of college programs and services
 - Community knowledge of college goals, objectives, programs and services
 - Rates of citizen enrollment in college programs and utilization of college services

Constituency: Business and Industry**Outcome Measures:**

- Upgrading in job skills of employees in business and industry due to college labor training programs
- Placement and performance of college graduates in regional business and industry
- Reduction in business and industrial staff development costs due to labor development and training programs in community colleges
- Improvement in management skills of employees due to management development programs provided by community colleges
- Change in salary levels of employees due to enrollment in community college programs
- Improvement in business and industrial capacity to attract federal and state contracts due to expertise provided through college staff
- Reduction in labor costs due to cooperative education programs with two-year colleges
- Improvement in business and industrial awareness of economic trends due to participation in college workshops and seminars

Constituency: Students**Outcome Measures:**

- Student outcomes following graduation
 - Employment prospects (number of offers) following graduation
 - Relationship of job to curriculum
 - Personal income
 - Job Mobility
 - Pattern of promotions
 - Supervisory responsibility
 - Honors and awards
 - Employer evaluation of performance
 - Pattern of individual expenditures for discretionary goods and services
 - Leadership positions in local, state, and national organizations
- Student perceptions of community college education
 - Quality of instructors and staff
 - Use of innovative teaching techniques
 - Adequacy of equipment, supplies, and facilities
 - Adequacy of support services
 - Relatedness of education to job requirements
 - Quality of education as preparation for life
 - Capacity of education to improve social skills, cultural understanding, and communication skills

This classification of outcome measures is comprehensive and includes most of the dimensions of impact found in different types of institutions. A weakness revealed through research data in any one category—for example, declining enrollments or changing patterns of social and economic mobility associated with college programs—could be interpreted as a sign of weakness in program design or functioning. Such weaknesses need to be diagnosed quickly if the institution is to maintain an acceptable level of impact with external constituencies.

The cost component of the evaluation strategy is designed to provide cost data in a format compatible with outcome measures. Appropriate cost units such as full-time equivalent enrollment, credit hours, credit attrition, contact hours and cost per credit hour can be developed and reported in conjunction with outcomes data, thereby providing the components required for cost-benefit analysis.

Cost data provide an important index of the expenditure of resources associated with the production of outcomes. For example, if cost data indicate a trend toward decreasing enrollment, increasing operating costs, or rising costs per credit hour, a question would emerge as to the relationship between costs and outcomes. Program costs that dramatically exceed program outcomes would cast into doubt the ability of the college to generate critical impacts with constituencies within the limits of fiscal resources.

Improving the Resource Base

The translation of impact data into resource allocation decisions is the heart of the assessment process. When data on outcomes and costs have been collected, guidelines are necessary for their translation into resource decisions. Establishing guidelines involves setting up institution-wide priorities for the expenditure of resources. The absence of priorities allows the accumulation of a core of unanswered questions that plague faculty and administrators: What are the uses of impact data in community college? Who should be responsible for assessing the implications of various data trends and advising management of alternative strategies for resource allocation and generation on the basis of impact data? How can impact data be used to improve resource allocation and generation decisions?

These questions must be answered if community colleges are to expand the level of impacts generated with external constituencies. The application of impact data to resource decisions, however, does not answer the question of how to improve the resource base of the college through development of new resources. Most institutions fail to assemble impact data so that they argue convincingly for expanded levels of financial support. A single college, for example, may have information on the economic impact of its programs on the community or it may have published reports on the social and economic gains experienced by its students after graduation, but these factors have not been linked to produce a cogent argument for additional resources. Needed is

a strategy for assessing impact that joins variables integral to social and economic impact in a case for expanded financial support.

The strategy presented in the following pages identifies the impact variables that require research if community colleges are to improve the resource base through increased financial support. This model is divided into five components, each representing a unique argument for increased support, with measurement indicators presented for each.

Two-year colleges cannot afford to function in isolation from the political and economic base provided by external constituencies. Measures of impact are necessary for improving relationships with constituencies that, in turn, provide the college with the resources necessary for development of new programs and services. Agencies in a position to make funding decisions will be motivated to commit resources to the institutions they believe yield the greatest benefits to them. These benefits are largely economic in nature. If the two-year colleges can demonstrate their role as a catalyst for social and economic development of individuals, groups, and organizations, then a case can be put forward for financing these institutions as a vital force in state and local government. Success or failure, according to this scheme, depends on high performance levels by the college in generating outcomes that are essential to states, localities, and the federal government for long-term development (see Table 2).

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Table 2.

COMPONENT: SOCIAL MOBILITY

DEFINITION

Comparative mobility on measures of income and employment among individuals classified into three patterns of interaction with two-year institutions: 1) high school graduates/no record of college attendance, 2) currently enrolled students, and 3) two-year college graduates.

INCOME

- personal income of: high school graduates, currently enrolled students, and two-year college graduates
- property ownership of: _____
- availability of discretionary income to: _____
- spending patterns of: _____

EMPLOYMENT

- types of positions held on regional labor market by: high school graduates, currently enrolled students, and two-year college graduates
- number of job offers at point of entry to regional labor market received by: _____
- starting salary of: _____
- current salary of: _____
- supervisory position(s) held by: _____

COMPONENT: COST BENEFITS

DEFINITION

Cost of institutional programs and services in relationship to the market value of students upon exit from college.

INPUT FACTORS

Cost per FTE

- instruction (cost per FTE)
- non-instructional support services (cost per FTE)

Market Value of Students Upon Entry to College

- regional labor market needs
- student qualifications for job entry on basis of current level of education and experience
- personal income of students at point of college entry
- purchasing power in community (discretionary income)

OUTCOMES

Revenue per FTE

- revenue generated in the community (local taxes, property rental, personal expenditures, etc.) per FTE enrollment in college

Market Value of Students Upon Exit from College

- student capacity to fill critical jobs in regional labor market
- personal income of students at point of exit from college
- purchasing power in the community

COMPARISON OF INPUT FACTORS TO OUTCOMES ON ALL OF ABOVE ITEMS

Table 2 (continued)

COMPONENT: ECONOMIC DEVELOPMENT

DEFINITION

Status of the two-year college as a contributor to community economic development through providing trained manpower for the regional labor market.

INSTITUTIONAL PRODUCTIVITY IN RESPONDING TO REGIONAL MANPOWER NEEDS

- job titles required by regional business and industry in specific occupational categories/next year, next two years, next five years
- college programs available to meet manpower requirements of regional business and industry
- number of students currently enrolled in college programs bearing a direct relationship to manpower needs of regional business and industry
- number of graduates employed in key job titles
- job mobility of graduates in regional labor market

CAPACITY OF COLLEGE TO ATTRACT AND RETAIN INDUSTRY IN SERVICE REGION

- training programs available to attract new industry
- cost benefits of college training to business and industry
 - industry training costs *with* college programs
 - industry training costs *without* college programs

CAPACITY OF COLLEGE TO IMPROVE COMPETITIVENESS OF REGIONAL BUSINESS AND INDUSTRIAL ORGANIZATIONS FOR FEDERAL, STATE AND LOCAL CONTRACTS

- availability of trained faculty to build skills in satisfactory performance of competitive bid contracts
- availability of faculty with unique trade skills to serve in a consulting capacity with regional industry on competitive bid contracts

STATUS OF COLLEGE AS A FORUM FOR COMMUNITY DEVELOPMENT

- off-campus educational programs offered by college
- college services in response to community needs
 - health services
 - career and vocational guidance
 - family counseling
 - business and industrial development
 - financial planning
- community use of college facilities

OUTCOMES GENERATED BY COLLEGE LEADING TO COMMUNITY RENEWAL

- reduction of unemployment
- reduction in out-migration of population
- improvement in family organization
- attraction and retention of business and industry
- improved consumer spending patterns

COMPONENT: SOCIAL CONTROL

DEFINITION

Status of the college as a contributor to community development through absorption and conversion of undeveloped manpower into human capital to meet community needs.

ABSORPTION OF UNDEVELOPED LEARNERS INTO COLLEGE PROGRAMS

- number of new learners with no immediate career potential enrolled in college programs
- projected entry into regional economy of undeveloped learners
- cost economy of two-year college in preparing undeveloped learners for entry into economy as compared to other institutions (e.g., municipal and federal training programs, apprenticeship programs, four-year colleges, industry training programs, proprietary institutions, etc.)

MARKET CONTROL

- selective funding of new workers into job market with appropriate job skills
- bridging of gap between socioeconomic aspirations and individual limitations of new learners
- reduction of frustration in undeveloped learners as evidenced in data related to indicators of social organization/disorganization in the community (e.g., criminal activity, broken families, large proportion of population on public assistance, abandoned property, etc.)

REDUCTION OF HUMAN AND FINANCIAL WASTE

- reduction of financial waste through absorption of undeveloped learners into college programs and relief of taxpayer costs for individual processing in social institutions (municipal or state, and federal court systems; penal institutions, municipal assistance programs, welfare programs, etc.)
- reduction of human waste through provision of marketable skills to individuals for entry into the regional labor market

CAPACITY OF COLLEGE TO REDUCE UNEMPLOYMENT AND IMPROVE ECONOMY OF SERVICE REGION

- absorption of unemployed into college programs
- employment record of previously unemployed after contact with college programs
- changes in income and spending patterns of unemployed after college attendance

COMPONENT: COMMUNITY RENEWAL

DEFINITION

Impact of the college on the community in relationship to key indicators of economic development: community demography, employment, social organization, and taxable property.

STATUS OF COMMUNITY ON KEY DEMOGRAPHIC INDICATORS

- unemployment
- out-migration of population
- dwellings vacant and used
- family disorganization
- business and industrial installations
- tax base

Further information about institutional impact impact is available in the ERIC system.

ERIC Sources and Information: Measuring the Benefits of Community Colleges

Jack Friedlander

A search of the ERIC data base has yielded a large number of research studies that have been concerned with measuring the economic and educational benefits of community colleges. Most of these studies were designed to obtain answers to one or more of the following questions: What are the economic costs and benefits of community colleges to the communities in which they are located? How effective are community colleges in providing programs and services to each of the groups they are designed to serve? And to what extent are community colleges satisfying the educational and career objectives of their students?

The studies, whether they focused on data collected at the state, district, or individual college level, were remarkable similar in their designs and in their findings. The economic impact studies, based on a manual developed by the American Council on Education (Caffrey and Isaacs, 1971), demonstrated that the contribution of community colleges to the economic well-being of the state and jurisdiction in which

they are located far exceeds the cost of maintaining the college. A manual designed by the National Center for Higher Education Management Systems (Armijo and others, 1978) served as a how-to-do-it guide for determining how members of different constituent groups assessed the benefits of having a community college in their area. These studies found that community members were aware of and satisfied with college programs and felt their community benefited from the college.

The extent to which colleges were helping students to achieve their educational and career objectives was assessed by examining the postcollege experiences of former students. These follow-up studies, similar in design to those used in Texas (Hall and Reed, 1979) and Maryland (Tschechtelin and MacLean, 1980), showed that community college graduates were more likely than nongraduates to earn higher salaries, to be employed in jobs related to their training, and to report that their college preparation helped them to obtain, perform, and advance in their jobs. In addition, most graduates felt their community college training was most helpful in their subsequent educational and career pursuits. The studies from which these conclusions were derived are summarized in this chapter.

Economic Benefits of Colleges on Their Communities

In recent years, educators in state systems and in the individual community colleges have conducted studies to measure the economic benefits of colleges on communities in which they are located. Most studies of the economic benefits of colleges on their districts have been based on a manual developed by Caffrey and Isaacs (1971). The manual details the formulas, data sources, and procedures needed to measure the economic effects of a college on its community in twelve areas, seven of which are appropriate to community colleges. The types of information considered in assessing the economic impact of community colleges on their districts are illustrated in the studies summarized here.

Statewide Studies. A study was conducted by the Illinois Community College Board (Bess and others, 1986) to assess the economic impact of the state's public community colleges upon their local districts. Part of the study examined financial information concerning local businesses, local governments, faculty, staff, and students at six institutions representative of the state's community colleges. The study revealed that, in the year examined, the six Illinois community colleges made a substantial positive contribution to the economies of the districts in

which they were located. In each of the districts, the business volume attributable to the college's expenditures averaged close to \$25 thousand, the credit base of local banks increased by an average of \$5.2 million, and an average of 1,534 jobs in each district was related to the expenditures of the college. Bess and others found that some colleges produced a greater economic return to their district than did other colleges. Some of the factors that accounted for these differences were: percentage of staff living in the district, percentage of college funds expended in the district, percentage of students who were enrolled on a full-time basis, and amount of funds deposited in banks in the district.

Jackson and others (1978) conducted a study to assess the effect on the economy of the state of Washington of its twenty-seven-campus system of community colleges. Results of this study showed that the community colleges generated over \$147 million in out-of-state funds between 1969 and 1976 and \$690 million in business revenues for the reporting period. The average contribution to personal income was 171 percent of the state's general community college expenditure fund, and during a severe recession in 1975-76, system operations produced jobs for 15,837 people. The investigators concluded that Washington's state community college system is one taxpayer-supported program that yields a 31 percent return on the tax investment.

Linthicum (1978) examined the effects of Maryland's public community colleges upon the business and government sectors of that state's economy in 1971-1977. She found that the state received about \$9 million from taxes paid by the faculty and staff, from the federal government, and from taxes on business property allocable to college transactions. In addition, about 6,700 jobs were available because of the colleges. The literature review and the explanation of the methods upon which the study was based are especially helpful to those who desire a better understanding of economic impact studies.

Follow-up studies of graduates of community college programs in Maryland (Tschechtelin and MacLean, 1980), Illinois (Lach and others, 1979), and Virginia (Eyler and others, 1974) revealed that over 60 percent of the graduates took jobs within the same community college district in which they attended college, and close to 90 percent of the graduates were employed in the state where their former college was located. Lach and others (1979) concluded that, in addition to the educational benefits, an investment in public community colleges results in the production of many qualified skilled individuals who become employees and tax-paying citizens primarily in their local communities and almost always within the state in which they were trained.

Individual College Studies. Studies of the economic effects of individual colleges on their local communities are similar to the state-wide studies just described in their design (based on the model developed by Caffrey and Isaacs) and in their findings that the colleges make a substantial positive contribution to the economic health of the district in which they are located. Increases in terms of local business volume, property tax revenues, and jobs were reported in economic impact studies conducted at Bucks County Community College in Pennsylvania (Mahon, 1979), Mercer County Community College in New Jersey (Baum, 1978), Thomas Nelson Community College in Virginia (Butler, 1980), and Mohawk Valley Community College (Sotherton and others, 1978) and Rockland County Community College, both in New York (Poris and Eskow, 1978).

Benefits of Colleges to Their Communities

Though useful, descriptions of economic impacts constitute only a part of the descriptive information needed by college administrators and planners in documenting the benefits of their institutions to the community (Armijo and others, 1978). Information is also needed on the effects of a college's programs and services on the various individuals and communities it serves. Armijo and others noted that a community college staff probably would want to investigate the awareness and use of its programs and services, the extent to which they meet the needs of the community, and the public's perception of the value of having a community college in their area. A valuable resource for conducting surveys to obtain this information is a book entitled *Conducting Community College Impact Studies: A Handbook for Community Colleges*, developed by Armijo and others (1978). This handbook provides a complete how-to-do-it guide that can be used by community college personnel for organizing and conducting community impact studies. Procedures for conducting a study and sample survey forms are provided for assessing college impact on its community in such areas as community participation in community education programs and extension services, community awareness of, use of, and satisfaction with instructional programs and with institutional services, institutional goal attainment, and unmet educational needs of the community.

Oakton Community College (1980a, 1980b) in Illinois conducted a community impact study in fall 1979 to determine how selected groups—community residents, business and industry executives, high school students and personnel, students in the college's adult and com-

munity education programs—learned about Oakton, how they viewed the benefits of having a community college, how aware they were of the programs and services offered by the college, how satisfied they were with the programs and services, and in what ways Oakton could improve its services. The study procedures and questionnaires were based on models described by Armijo and others (1978) in their handbook on conducting community impact studies. Among the findings obtained in this study were: the groups surveyed felt it was very beneficial to have a community college available in the area, the respondents valued having the opportunity to update job skills, prepare for job openings, and explore educational and career options; the community was generally aware of Oakton Community College and its missions; respondents perceived Oakton as meeting its objectives, and those who had participated in the college's programs were generally satisfied with their experiences. The experiences of three community colleges that conducted a community impact study are described in Armijo (1979).

Career, Earnings, and Educational Effects

In the past few years, numerous community colleges have conducted studies to examine postcollege experiences and perceptions of former students to determine the extent to which their educational and career goals have been achieved. Some of these studies were concerned with only graduates of occupational-technical programs, some included graduates of all college programs, and others assessed the postcollege career and educational experiences of graduates and undergraduates.

These studies are very similar in information sought, design, and results obtained. In most instances, surveys were sent to former students within one year after they left the community college. Questions asked of these students focused on their employment status, salary, relationship of job to community college program of study, location of employment, job satisfaction, educational status, and adequacy of preparation. Employers' evaluations of the adequacy of training their employees received from the college were also obtained in a few of the studies. Major findings obtained in these follow-up studies of former community college students are presented next.

Employment. Studies of community college graduates have shown that most were either employed fulltime or attending another college. Less than 5 percent were unemployed and looking for a job (Carter, 1975; Clark, 1975; Corbitt, 1979; Eyler and others, 1974; Foellinger and Aspinwall-Lamberts, 1980; Hall and Reed, 1979; Jackson

and others, 1978; Lach and others, 1979; Reap, 1979; Swartz, 1980; Tschechtelin and MacLean, 1980). To illustrate, Lach and others (1979) reported that 75 percent of the Illinois community college graduates were employed fulltime, while an additional 13 percent were employed on a parttime basis. Only 5 percent of the graduates reported that they were unemployed and seeking a job. Research conducted in Virginia (Eyler and others, 1974) and at Lane Community College in Oregon (Foellinger and Aspinwall-Lamberts, 1980) demonstrated that fulltime employment rates for graduates were higher than for nongraduates.

Relationship of Job to College Program. Researchers have consistently found that over 75 percent of the graduates of occupational programs were employed in a job that was related to the program of study at the community college (Carter, 1975; Corbitt, 1979; DeVault and Lee, 1978; Foellinger and Aspinwall-Lamberts, 1980; Gell and others, 1976; Hall and Reed, 1979; Kirby, 1980; Lach and others, 1979; Lakeland Community College, 1974; Swartz, 1980; Tschechtelin and MacLean, 1980; Vinarskai and others, 1976). However, studies conducted at Oakton Community College, Illinois (Kirby, 1980) and at Arapahoe Community College (Corbitt, 1979) found that less than 30 percent of the 1977-78 graduates of nonoccupational programs were in occupations that were related to their college training. Similar results were obtained in a study of graduates of Texas community colleges. Here 39 percent of the associate in arts graduates (as compared to 82 percent of those with an associate in applied science degree) noted that their present occupation was related to the courses they completed in college (Hall and Reed, 1979). Nevertheless, 75 percent of the associate of arts degree holders reported that the training they received in college was beneficial in helping them to perform their jobs.

Studies by Eyler and others (1974), Tschechtelin and MacLean (1980), Vinarskai and others (1976), Reap (1979), and Hall and Reed (1979) have found that graduates were more likely to be employed in occupations related to their college training than were nongraduates. For example, a study of former students of Oregon Community College revealed that almost three times as many early leavers (47 percent) as graduates (17 percent) were employed in jobs not related to their college program (Vinarskai and others, 1976).

Earnings. Gooder and MacMillan (1979) report Bureau of Census figures from the mid-1970s indicating that males with one to three years of college will have a mean income of \$2,118 greater than their counterparts with only a higher school education. The corresponding

figure for females is \$1,270. As the authors pointed out, an increased annual income of \$2,118 for men and \$1,270 for women multiplied by an average of forty to forty-five years of earnings is substantial. Along these lines, Moore and Woodnutt (1979) found that graduates of Chemeketa Community College's occupational programs had an average starting salary that was \$3,883 greater than what they were earning prior to starting the program.

Overall, the results of the studies indicate that an investment in a community college program is worthwhile for students in terms of economic benefits after they complete their programs. Lach and others (1979) reported that graduates with two-year associate degrees in occupational programs with no prior jobs earned a median salary that was \$2,352 more than that received by graduates of certificate programs of one year or less. Vinarskai and others (1976) reported that graduates of Oregon community colleges who were working fulltime earned an average of \$70 per month more than early leavers employed full time. More recently, Foellinger and Aspinwall-Lamberts (1980) found a \$300 difference in the median monthly earning between graduates and early leavers of Lane Community College. Linthicum (1978) estimated that students who attended a Maryland community college during the 1976 fall semester will receive almost a 27 percent return on their investment in higher education during a lifetime.

Job Satisfaction. Mahon (1979), Lach and others (1979), Vinarskai and others (1976), and other investigators have found that most community college graduates who were employed were fairly well satisfied with their current position. Vinarskai and others (1976) reported that twice as many early leavers as graduates of Oregon community colleges were dissatisfied with what they were doing at work.

Educational Preparation. Only a few of the follow-up studies asked students to rate the academic preparation they received in their community college. Reap (1979) found that half of the 1978 graduates of North Harris Community College (Texas) who were enrolled in a four-year institution rated their preparation as excellent, and another 45 percent said it was satisfactory. Most graduates of community colleges in Connecticut (Swartz, 1980), Texas (Hall and Reed, 1979), and Maryland (Tschechtelin and MacLean, 1980) were satisfied with their preparation for transfer. Over 90 percent of the graduates in these studies who were employed fulltime reported that they were satisfied with their preparation for employment.

Lach and others (1979) found that less than 40 percent of the graduates of occupational programs indicated that their community

college education was helpful to them in the development of the following skills: effective communication, ability to think critically, personal relationships with others, goals and values, self-understanding, involvement with their community, aesthetic appreciation, and effective use of time. Nearly all of the remaining respondents rated their educational preparation in these areas as adequate. The study by Vinarskai and others (1976) of former community college students who were employed revealed that less than half of the respondents rated their community college experiences in mathematics, writing, speaking and reading as good. Earlier leavers tended to rate their academic preparation slightly lower than did the graduates.

Several investigators have found that over 60 percent of those community college graduates with a goal to transfer did. However, 35 percent or more of those students lost four or more credits when they moved from the community college to the four-year institutions (Carter, 1975; Hall and Reed, 1979; Tschechtelin and MacLean, 1980).

Employer Evaluations of Graduates. In a few of the follow-up studies, employers of community college graduates were asked to evaluate the adequacy of training their employees received from the community college (Clark, 1975; Kuznik, 1975; Moore and Woodnutt, 1979). Overall, the results of these surveys indicated that employers were satisfied and impressed with the graduates in terms of their skills, general preparation, and their attitudes toward work.

Conclusion

Two of the primary reasons for measuring the effects of colleges on their students and communities are to provide legislators and taxpayers with documentation of the educational and economic benefits of having a community college and to provide the college staff with information that can be used in program evaluation and development (Owings, 1980). As devices to heighten public appreciation, the studies reviewed in this chapter provide educators with much evidence to document the economic and educational benefits of community colleges. However, as tools for gathering data to be used in evaluating and strengthening programs, these surveys are not entirely adequate. Diagnostic and comparative information are also needed. For example, the economic impact studies did not provide information on the efficiency of community college operations in terms of running their programs and producing their graduates. Nor was there information as to whether their individual programs were more or less cost effective and productive

than similar ones provided by other educational institutions in the community. Likewise, they did not attempt to compare college outcomes with those of other providers of educational services, such as proprietary schools, military programs, four-year colleges and universities, or other community colleges.

A major shortcoming of these studies is that they do not provide comparative information on the economic and educational benefits of community colleges versus equivalent dollars spent on some other public agencies. That is, if a state invests \$10 million in a community college, then naturally the college is going to have a salutary effect on the economy of the community in which it is located. However, these studies do not provide comparative information on the economic benefits to the community if the money spent on the college were spent on some other services such as libraries, museums, a cultural center, a branch of a university, or tax credits for an industrial park. Similarly, if students completed an occupational program in a community college, we would surely expect, or at least hope, that they would be more likely to get a job in a field related to their training than those who did not attend college. A more meaningful comparison would be to determine what the educational and occupational benefits to the community would be if the money spent on a community college were directed toward other sponsors of educational training such as high schools, proprietary schools, four-year colleges and universities, or job training centers.

Nevertheless, the numerous studies assessing the benefits of community colleges have been consistent in showing that these institutions make a substantial contribution to the economic well-being of the states and jurisdictions in which they are located, that the community members are aware of and satisfied with the programs offered by the colleges, and that the colleges have a positive effect on their graduates' career and economic attainments.

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From the Editor's Notes

Impact measures are a critical ingredient in shaping the future of the institution and enable faculty and administrators to weigh and sift the evidence for various development alternatives.

An institutional data vacuum invites external intervention and domination either by an imposed plan or ad hoc legislative decisions. A carefully defined plan for assessment of impact invites external support and cooperation rather than control. Community colleges should, at the very least, know more about the benefits of their programs to students, business and industry, the community, and government agencies than do external agencies.

The assessment of impact as considered in this volume of New Directions for Community Colleges, provides one method for collection of this information and ensures the continuing progress of community colleges toward their stated mission and goals.

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